

# AGRICULTURAL OUTLOOK

Economic Research Service  
United States Department of Agriculture

November 1990

Cotton Returns  
to the  
Southeast



# AGRICULTURAL OUTLOOK

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The contents of this magazine have been approved by the World Agricultural Outlook Board, and the summary was released October 19, 1990. Materials may be reprinted without permission. *Agricultural Outlook* is published monthly except for the

January/February combined issue. Price and quantity forecasts for crops are based on the October 11 World Agricultural Supply and Demand Estimates.

Annual subscription: \$26 U.S., \$32.50 foreign (includes Canada). Order from ERS-NASS, P.O. Box 1608, Rockville, MD 20849-1608. Or call, toll free, 1-800-999-6779 (8:30-5:00 E.T.). Make check payable to ERS-NASS.

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The next issue of *Agricultural Outlook* (AO-170) is scheduled for mailing on December 6, 1990. If you do not receive AO-170 by December 20, call the managing editor at (202) 219-0494 (be sure to have your mailing label handy). The full text and tables of AO-170 will also be distributed electronically; additional information on this is available at (202) 447-5505.



# News of Farm Income Prospects, U.S. Cotton Rebound, Global Economic Outlook, and Speculative Farmland Bubbles

**U**.S. farmers' net cash income likely will reach a record \$60 billion this year. However, abundant crops, lackluster commodity prices, the oil shock, and a weaker global economic outlook are putting downward pressure on farmers' receipts and boosting expenses for this quarter and into next year.

Since the last oil shock and recession in the early 1980's, farmers have undergone a major financial restructuring. Total farm debt has dropped about a third from the 1983 peak of \$193 billion. And farmers' debt repayments are forecast to equal about 11 percent of gross cash income (receipts plus government payments) this year, compared with a peak of nearly 20 percent in 1983. With a lighter debt burden and record income this year, U.S. farmers are in a stronger position to withstand a drop in income.

The world's farmers are harvesting a record grain crop in 1990/91, with output up nearly 5 percent from last year. The higher prices of the last few years, good weather around the world, and low U.S. acreage reduction requirements are all contributing to the increase. With the large harvest in importing countries, world trade in grains is expected to drop nearly 5 percent.

Global sugar prices are expected to stabilize at near 10 cents a pound after plummeting almost 20 percent during the third quarter. After several years when consumption grew faster than production, world output in 1990/91 is catching up. Expectations of more sugar output in Western Europe and weaker import demand around the world are behind the changed outlook.

In the U.S., supplies of Thanksgiving turkeys will be greater than a year ago. But prices will get some support from relatively high pork, beef, and chicken prices. Beef and pork supplies are at



cyclical lows, so prices have been near record highs. Also, chicken prices remain above a year earlier, in part reflecting strong export demand.

For U.S. cotton, domestic mill use and exports are forecast down in 1990/91, partly because of tighter domestic supplies and gains in foreign production. But the growing consumer preference for cotton and ongoing industry efforts to stay competitive suggest a brighter outlook beyond this season.

U.S. cotton farmers are using a number of non-chemical solutions to pest problems. Cotton acreage examined by professional scouts increased 37 percent between 1982 and 1989, according to USDA surveys. Scouts recommend alternative pest management strategies, including the timing of chemical applications, based on observed pest populations.

Nevertheless, chemicals are used heavily in cotton production. In the 14 major producing states, 98 percent of upland

cotton acreage was treated with pesticides last year. The treated acres averaged seven applications for the season.

Inflation-adjusted GDP in industrial countries is projected to grow by 2.5 percent through next year, down from 2.7 percent forecast before Iraq's invasion of Kuwait, according to the International Monetary Fund. The impact of the oil shock on developing countries that import oil is expected to be greater—the forecast of their real economic growth was cut to 1.75 percent from 3.0 percent. Moreover, these developing countries took about 25 percent of U.S. agricultural exports last year.

Mexico has traditionally been a net exporter of fresh and processed fruits to the U.S. Now, the U.S. is exporting more fruit to Mexico and likely will narrow this trade gap. Some U.S. fruit exports have already posted big gains.

Mexico's economic reforms and gradual relaxation of trade barriers are changing the patterns of trade between the two countries. Moreover, higher oil prices and the prospect of a U.S.-Mexico free trade agreement are improving the outlook for U.S. fruit exports.

During the 1970's, U.S. farmland prices increased rapidly—exceeding 20 percent in some years. Many said prices reflected a speculative mania rather than expected farm income. Speculative manias, often called "bubbles," occur when investors buy an asset intending only to sell it later at a higher price, rather than using it to generate income over a number of years.

While there is some circumstantial evidence of a speculative bubble in the 1970's, the long-run stable relation between farmland prices and returns (as measured by cash rental rates) leads to the conclusion that bubbles have most likely not occurred in farmland markets.



## Agricultural Economy

## Income Prospects Under Pressure

**R**ecent developments here and abroad mean that U.S. farmers' receipts are slipping and expenses are rising. Favorable weather in the Northern Hemisphere is lifting world wheat production 10 percent in 1990/91; stocks are rising and prices are moving down. And for all grains, global output growth is exceeding consumption growth by nearly 3 percentage points.

Substantial increases in supplies and sluggish demand growth mean downward pressure on prices. On the demand side, growth partly depends on the strength of the nonfarm economy. In the U.S., many analysts believe that real GNP is contracting this quarter, and will post only a small gain for all of 1990. And many forecasts suggest GNP will grow just slightly faster in 1991.

Abroad, economic growth in 1991 is expected to be stronger than in the U.S., but the forecast growth rates for almost all of the developed economies have been revised downward since the August oil price shock. Moreover, the results from the late-September meeting of the G-7 (the seven leading industrial economies) strongly point to a renewed struggle against global inflation, and perhaps slower growth.

While the oil price shock could put upward pressure on the value of U.S. agricultural exports if the governments of the major economies were to expand their money supplies, tighter money implied by the G-7 meeting would shut off this possibility. Much more importantly, agricultural production in importing and other exporting nations is up sharply, dampening export prospects for U.S. farmers.

Sharply higher oil prices are lowering consumers' real incomes and shifting their demands for agricultural products. The demand for high-value products—



such as convenience foods—will slow the most. Growth in demand for red meats will slow as consumers buy more lower-priced poultry and perhaps more nonmeat sources of protein. But among all consumer goods, the demand for food is one of the least sensitive to changes in incomes.

Farmers' production expenses will go up because of the oil price hikes. If average annual oil prices doubled from \$20 to \$40 a barrel, farmers' manufactured input expenses in 1991 would rise 12-13 percent. But manufactured expenses are estimated to be only \$20-\$23 billion of the \$124-\$127 billion in cash expenses in 1990, so the percentage increase in total expenses would be much smaller.

### *Policy Uncertainties Cloud the Outlook*

Tense negotiations over the U.S. budget, the GATT, and the farm bill have made it more difficult for farmers to decide which production options will yield the highest returns next year. Disagreements over the budget and the farm bill have taken so long to resolve that winter wheat growers planted their crop without knowing what the target price or loan rate would be at harvest.

Moreover, the delays in Congress meant that some winter wheat growers had to decide how much of their base acres to plant before the Acreage Reduction Pro-

gram (ARP) requirement was announced. Had the farm bill been passed without a budget deal, target prices and loan rates would have been misleading. The subsequent Gramm-Rudman-Hollings spending cuts would have reduced deficiency payments about a third.

The extremely divisive global debate over cutting trade-distorting government support to agriculture will come to a head in Geneva during December as the Uruguay Round of the GATT reaches its conclusion. While many hope that the talks will mean freer trade, the outcome is up in the air. Failure to achieve substantial cuts in protection would actually lead to more retaliation by a number of nations against any perceived "unfair trading practice." This would be expensive for all nations.

Whatever agreement comes out of the GATT talks, it must be ratified by Congress. If ratified, the agreement likely will require that the 1990 farm bill be revisited. Any reductions in trade-distorting support, though, would be phased in over a number of years.

So, implementing a GATT accord is unlikely to affect 1991 planting decisions. Moreover, the Administration has promised to continue to provide support to farmers, but in ways that do not distort trade.

### *Farmers Now Have Less Debt*

Since the last oil shock and recession in the early 1980's, the U.S. farm sector has undergone a major financial restructuring. In addition, farmers' net cash income this year is record high, and likely to hit the \$60-billion mark. Farmers are in better shape financially to withstand a drop in income next year.

Inflation-adjusted farmland values have fallen 42 percent since their peak in 1980, and real farm debt has contracted 50 percent from its 1980 peak. Land values have posted only modest nominal gains over the past few years, reflecting muted expectations about future income growth. So, a small slip in income



## Prime Indicators

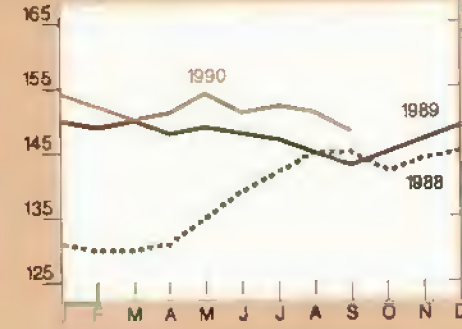
## Agricultural Economy

Index of prices paid by farmers

1977 = 100

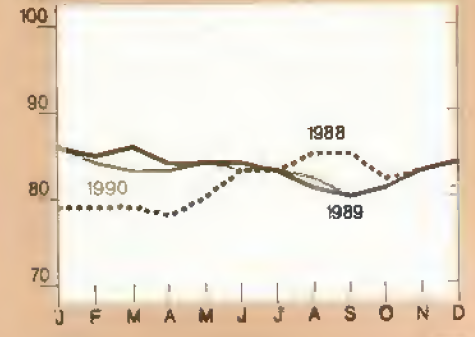
Index of prices received by farmers<sup>1</sup>

1977 = 100

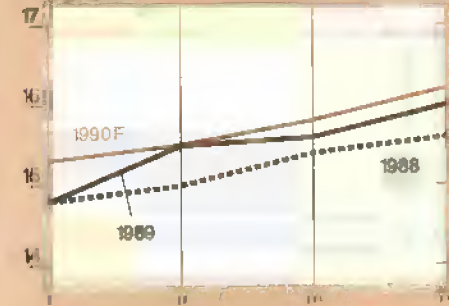


Ratio of prices received/prices paid

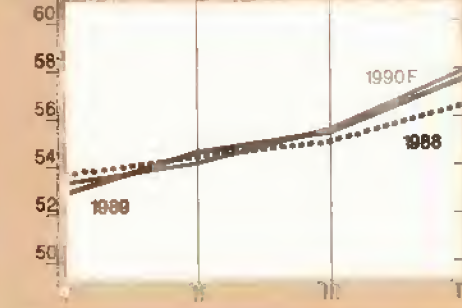
Percent

Total red meat & poultry production<sup>2</sup>

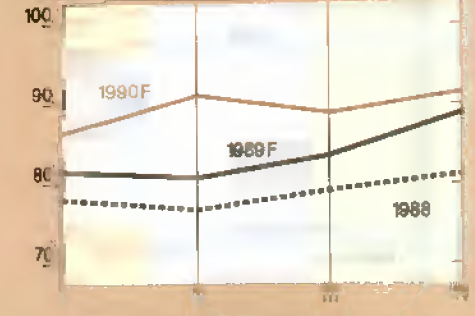
Billion pounds

Red meat & poultry consumption, per capita<sup>2,3</sup>

Pounds

Cash receipts from livestock & products<sup>4</sup>

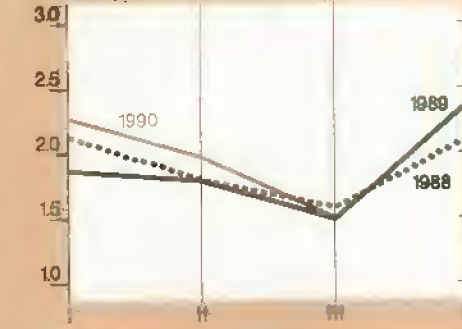
\$ billion

Corn beginning stocks<sup>5</sup>

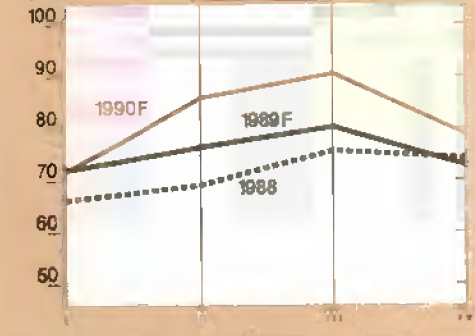
Billion bushels

Corn disappearance<sup>5</sup>

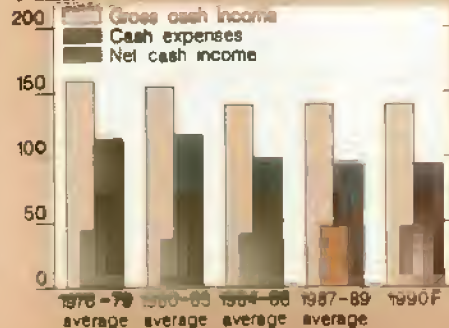
Billion bushels

Cash receipts from crops<sup>4</sup>

\$ billion

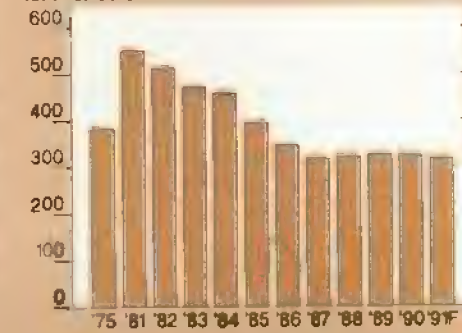
Real cash income<sup>5</sup>

\$ billion



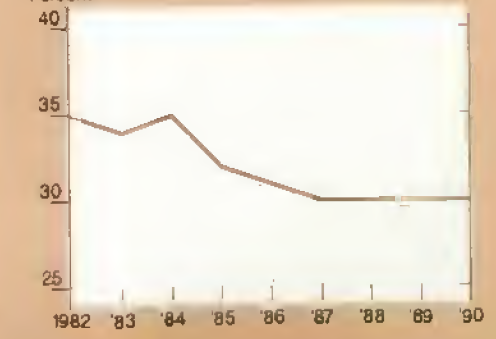
Average real value of farm real estate

1977 \$/acre



Farm value/retail food costs

Percent



<sup>1</sup>For all farm products. <sup>2</sup>Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. <sup>3</sup>Retail weight. <sup>4</sup>Seasonally adjusted annual rate.

<sup>5</sup>Dec-Feb; I=Mar-May; II=Jun-Aug; III=Sept-Nov. <sup>6</sup>Cash expenses plus net cash income equals gross cash income. F=forecast




## Agricultural Economy

would not touch off a sharp slide in values.

Farmers are unlikely to experience major problems with debt repayment next year. Farmers' debt repayments are forecast to equal about 11 percent of gross cash income (receipts plus government payments) this year, compared with a peak of nearly 20 percent in 1983. And the percentage has been trending down steadily since that peak.

With a lighter debt burden and continued heavy reliance on off-farm income, many U.S. farmers are in a stronger position to withstand the vagaries of international commodity markets. This year, farmers are expected to earn \$58-\$62 billion from sources off the farm, compared with \$59-\$63 billion in net cash income from the farm.

Still, much farm debt is concentrated among the larger commercial operations that rely less on off-farm income. And many of these operations, concentrated in the Plains and Delta states, produce for the international markets and have depended heavily on government payments.

Moreover, weaknesses in the rural economy suggest farmers with smaller operations will not buy a new piece of farm equipment based on plans to get a non-farm job nearby. During the third quarter of this year, rural employment contracted. However, the declining value of the dollar and prospects for higher nonagricultural exports would cushion the impact of a national slowdown on rural economies. (Gregory Gajewski and Nathan Childs (202) 219-0313) 

## Livestock, Dairy & Poultry Overview

*Supplies of Thanksgiving turkeys will be greater than a year ago. However, prices are expected to be pulled up slightly by high prices for competing meats.*

*Contributing to these higher prices, commercial pork production this year is projected to be 3 percent below a year ago. But output in 1991 is expected to rise 3 percent and retail prices should drop slightly.*

*While commercial beef production this fall is expected to be 2 percent less than a year earlier, a 1- to 2-percent increase is likely in 1991. And retail beef prices, currently a near record high, are expected to hold steady next year.*

*Broiler output growth continues, but at a slower pace as prices drop seasonally. However, record large exports and higher competing meat prices will hold fourth-quarter prices near a year earlier. In 1991, prices also are expected to be about flat.*

### A Turnaround For Pork?

Hog producers are cautiously expanding production, despite almost a year of favorable returns. Earlier this year, concerns about the late corn crop and an expected sharp drop in hog prices in late summer clouded the longer-term profit picture.

Hog prices did drop sharply in August, as expected, but rebounded counterseasonally in September. Lower corn prices and higher hog prices have improved prospects for future hog production. Favorable producer returns are expected for the remainder of this year and most of next year.

Reflecting producers' caution, the number of hogs kept for breeding totaled 6.9 million head on September 1, about the

same as a year ago. However, there are some signs of an expansion. As of September 1, producers planned to have 2 percent more sows farrow during September-February than a year earlier. The number of pigs per litter has continued to increase—the June-August number reached a record high.

Market hog inventories totaled 49.4 million head, down 3 percent from a year ago. Commercial pork production in 1990 is projected to be 15.4 billion pounds, down 3 percent from 1989. Based on market hog inventories and farrowing intentions as of September 1, 1991 production is expected to rise 3 percent to 15.8 billion pounds, about even with 1989. The increased pork output is expected to lower hog prices from the mid-\$50's per cwt in 1990 to the low to mid-\$50's in 1991.

Retail prices reached a record \$2.25 per pound in August, but moderated in September. For the year, retail pork prices are expected to average \$2.10, up sharply from \$1.83 in 1989. Although pork supplies are expected to increase 3 percent in 1991, retail prices are likely to decline only slightly. Price spreads are expected to widen as farm prices drop.

### Cattle Placements Expected Down

Fewer and heavier-weight stocker and feeder cattle are expected to be placed on feed this fall than a year earlier. Placements this quarter are expected to be well below a year ago due to large third-quarter placements and more favorable pasture and range conditions in many areas. Typically, the largest number of feeder cattle are placed during the fall (i.e., fourth) quarter.

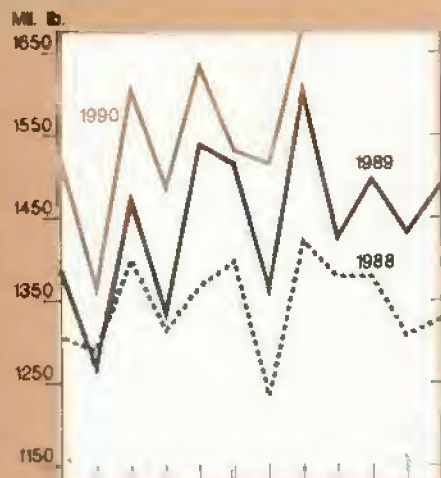
Last year's fall placements in the 13 reporting states were unusually large at 7.3 million head, 10 percent above a year earlier and 28 percent above the previous quarter. Poor fall pasture and range conditions, particularly in the winter wheat grazing areas, explain last fall's surge.



## Livestock and Product Output

## Agricultural Economy

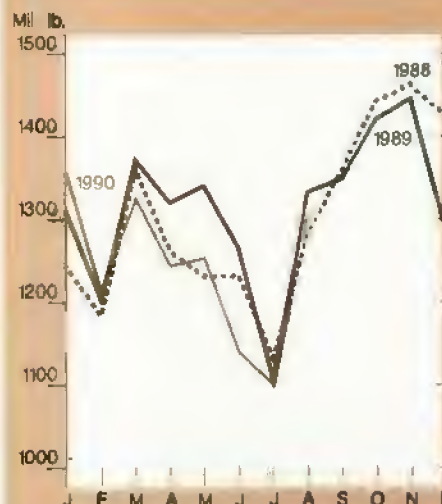
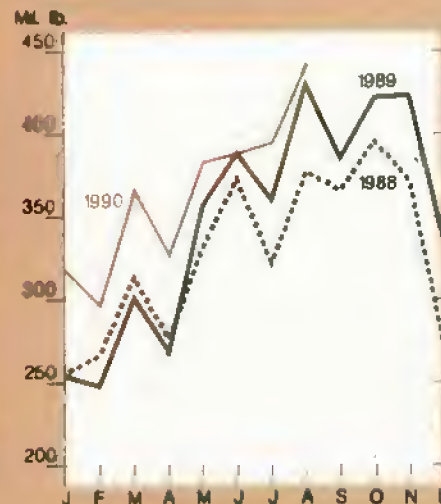
Commercial beef

Broilers<sup>1</sup>

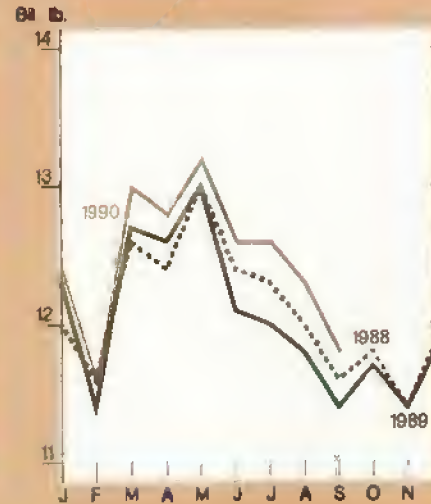
Eggs



Commercial pork

Turkeys<sup>1</sup>

Milk



<sup>1</sup>Federally inspected production, ready-to-cook.

Favorable forage conditions this year will cause a greater proportion of the calf crop to be held on pasture. This fall's stocker and feeder cattle prices are well above a year earlier. Prices for 400-500 and 500-600 pound steers at Oklahoma City ranged between \$100 and \$110 per cwt during the summer, \$5-\$10 higher than a year earlier. This reflects expectations for higher fed cattle prices in 1991 and declining feed grain costs.

Heavier-weight feeder cattle prices are expected to average in the low \$90's this fall, up from \$87 last year. Prices are being supported by slipping feed costs in 1990/91 and high fed cattle prices.

Beef production this quarter is expected to be 2 percent less than a year earlier. Fed cattle slaughter likely will be equal to or greater than a year ago. However, the slaughter mix contains fewer cows and bulls, reflecting some herd rebuilding. Both fed cattle and utility cow prices are expected to be above a year earlier. Average dressed weights probably will remain at record or near record levels in coming months.

Commercial beef production in 1991 is forecast to expand 1-2 percent, with the greatest increase coming in the second half. Fed cattle, feeder cattle, and utility cow prices are all expected to post modest gains.

Retail beef prices likely will stay near or slightly above current levels in 1991. Choice beef prices are now a few cents below May's record \$2.85 per pound. However, uncertainty about oil prices, interest rates, and income growth, coupled with larger supplies of competing meats, will increase downside price vulnerability in 1991.

### Record Broiler Exports Foreseen

Positive net returns this year stimulated a 7-percent increase in broiler output.



## Agricultural Economy

Fourth-quarter output is expected to reach about 4.7 billion pounds, up nearly 6 percent from a year earlier. Continued positive net returns and expectations of favorable grain and soybean meal prices through the remainder of 1990 and early 1991 are likely to encourage further, but slower, expansion.

First-quarter 1991 production growth probably will slow to about 6 percent, compared with almost 9 percent in the first quarter of this year. Total output is expected to increase 5-6 percent for all of 1991.

Wholesale broiler prices are expected to slip seasonally during this quarter as prices average 48-54 cents per pound, down from 57 cents in the third quarter. However, record broiler exports and high prices for competing meats are expected to hold fourth-quarter prices near a year earlier.

For all of 1990, the 12-city composite wholesale price for broilers is forecast to average 54-56 cents, down from a year earlier, reflecting the increase in supply. Prices in 1991 are expected to average 51-57 cents, near 1990 levels, with slower growth in output likely.

Retail prices are estimated to average 85-91 cents per pound for the second half of this year, 4-6 percent lower than a year ago. Prices for all of 1990 likely will be lower than in 1989, and go lower still in 1991. Per capita broiler consumption is expected to increase to 73 pounds in 1991.

### Turkey Output Growth To Slow

Turkey production this quarter is projected to increase about 5 percent from a year earlier. Output for the year will be 9-10 percent above 1989, reflecting large increases during the first half. Turkey stocks on September 1 reached a near record 617 million pounds. However with slower production increases, stocks are not expected to become burdensome.

Wholesale prices have continued to rise slowly from the lows earlier in the year. September-October hen and tom prices

were both above a year earlier. Prices took strength from moderate production growth and relatively high red meat prices. Fourth-quarter prices are expected to move seasonally higher—with Eastern Region hen prices likely averaging 67-73 cents per pound. Any further price rises will be tempered by the high stocks.

Estimated net returns for turkey producers during the third quarter were above breakeven for the first time this year. Returns probably will rise further this quarter, reflecting lower feed costs and higher turkey prices. However, average returns for the year are estimated to be only slightly above breakeven. Given the very low returns early this year, turkey production in 1991 is expected to grow only 5 percent.

### Egg Production Up Slightly

Although egg producers have been slow to expand, this quarter's table egg output is expected to pick up a bit and post a 1-percent gain from a year ago. While the table-egg flock on September 1 was slightly smaller than a year earlier, it is a younger, more productive flock, and the number of eggs per hen is up 2 percent.

Expected additions to the flock during the fourth quarter also will contribute to the production increase. Total egg production for this year and next is forecast to increase 1 percent as producers continue to expand slowly in response to continued favorable net returns.

Egg prices have declined only modestly in the face of recent production increases. Fourth-quarter wholesale prices for grade A, large eggs in New York are likely averaging in the mid-to-high 70 cents per dozen, down from a year earlier. For the year, prices probably will average 78-80 cents, but drop to 66-72 in 1991.

The egg price forecast is clouded by USDA restrictions on eggs from a large mid-western complex due to positive testing for salmonella enteritidis. Eggs from infected flocks cannot be sold as table eggs and instead are diverted to breaking

plants for conversion into pasteurized egg products.

Retail prices for Grade A, large eggs are expected to decline to about 90 cents in this quarter and average in the high 90's for the year, down slightly from 1989. Per capita consumption is estimated to be about 234 eggs, down one egg from 1989. While consumers are eating fewer whole eggs, they are eating more products made with eggs.

### Milk Output Higher

Milk production during July-September rose about 4 percent from a year earlier. Higher returns slowed the exit of dairy farms and encouraged others to expand. In addition, farmers faced fewer supply and quality problems with forage than a year ago.

Cow numbers during the third quarter were up slightly from a year earlier—farmers delayed culling to take advantage of higher milk prices. Milk output per cow was about 4 percent above a year earlier. Concentrate feeding rates were raised in response to favorable milk-feed price ratios.

The changes during July-September from a year earlier reflect more declines in 1989 milk production than any unusual production shifts this year. Growth in milk production and in milk per cow in 1990 is steady but moderate, compared with 1988 and earlier.

For further information, contact: Ken Nelson, coordinator; John Ginzel, cattle; Leland Southard, hogs; Lee Christensen, Agnes Perez, and Larry Witucki, poultry; Jim Miller and Sara Short, dairy. All are at (202) 219-1285. **AO**



## Field Crops Overview

The world's farmers are harvesting a record grain crop in 1990/91, with output up nearly 5 percent from last year. The higher prices of the past several years, good weather around the world, and low U.S. acreage reduction requirements are all contributing to the increase. Partly because of the large harvest, world trade in grains is expected to drop nearly 5 percent.

Global grain output is forecast to exceed consumption in 1990/91, and stocks will rise for the first time in 4 years. Wheat will account for most of the stocks gain, while coarse grain stocks are expected to drop again. Wheat prices have fallen sharply, but season-average corn prices in the U.S. are not expected to change substantially from last year.

Falling prices and rising U.S. stocks prompted the Secretary of Agriculture to tentatively boost the wheat Acreage Reduction Program requirement from 5 percent in 1990/91 to 15 percent for 1991/92.

### Wheat Trade Prospects To Drop

The world wheat crop in 1990/91 is showing the largest 1-year jump in over a decade. Crops of the major exporters—Argentina, Australia, Canada, the EC, and the U.S.—are forecast up 17 percent, led by very large gains in the U.S. and Canada. The EC also had its best crop since 1984.

At the same time, large harvests by traditional importers also are restraining demand. China's crop is probably setting a record, and the USSR is expected to produce its largest crop in more than a decade. World trade is forecast to total 97 million tons, the same as in 1989/90. Low prices, and a surge in imports of feed-quality wheat, are keeping volume from falling.

### Soybean Supplies Are Tightening

	1988/89	1989/90	1990/91
Million metric tons			
<b>WORLD</b>			
Wheat			
Production	501	537	592
Use	532	537	566
Exports	97	97	97
Ending stocks	117	118	144
Corn			
Production	401	461	471
Use	460	478	475
Exports	64	74	65
Ending stocks	87	70	66
Soybeans			
Production	96	106	104
Use	98	105	107
Exports	23	27	27
Ending stocks	18	19	16
<b>UNITED STATES</b>			
Wheat			
Production	49	55	75
Use	27	27	34
Exports	38	34	31
Ending stocks	19	15	25
Corn			
Production	125	191	204
Use	133	146	153
Exports	51	60	53
Ending stocks	49	34	32
Soybeans			
Production	42	52	50
Use	31	34	35
Exports	14	17	17
Ending stocks	5	7	5

Note: Exports of wheat and corn do not include intra-EC trade shipments. Data are for marketing years. The wheat year is July/June, and the soybean and corn marketing years are October/September.

The large U.S. and foreign wheat crops have sharply depressed prices. In the U.S., 1990/91 prices are forecast to be 23 to 31 percent below last year. The lower prices boosted the amount of wheat fed to livestock. The feed and residual category of wheat use during June-August probably was record high.

Prices in some foreign markets are down even more than domestic prices because exporter subsidies have increased. Average EC export restitutions have nearly doubled since January, and U.S. bonuses for wheat sales under the Export Enhancement Program have recently exceeded \$50 per ton, up from the mid-\$20's as recently as July. U.S. exports in 1990/91 are forecast to be down 9 percent from last year.

The low wheat prices and the slow pace of export sales encouraged the Secretary

of Agriculture to announce a tentative 15-percent Acreage Reduction Program (ARP) requirement for the 1991/92 wheat crop. The final ARP will depend on the 1990 farm bill.

The announcement was delayed until September 20, in part because Congress had been unable to pass a farm bill to replace programs that expired with the 1990/91 crops. The higher ARP will mean less area and output than in 1990/91, when program participants faced a 5-percent ARP. Last season, participants also had the option of planting up to 105 percent of their wheat base acres, provided they gave up one acre's worth of deficiency payments for every acre planted in excess of 95 percent of their base.



## Agricultural Economy

### Global Coarse Grain Stocks To Stabilize

With record 1990/91 foreign production and a large U.S. crop, world coarse grain output is forecast to nearly equal use for the first time in 4 years. However, world stocks are dropping slightly. Continued low stocks mean that prices, particularly for corn, will not drop significantly.

Because of large crops in importing countries and competition from feed-quality wheat, world trade is expected to be off 9 percent from a year earlier.

The U.S. will harvest the largest total coarse grain crop in 4 years. Corn prices are forecast to be \$2.20-\$2.60 per bushel, compared with \$2.36 in 1989/90. Last year, producers resisted marketing their corn when prices slipped, resulting in higher prices than the historical relationship with the stocks-to-use ratio would have implied. Such producer resistance may be evident again this year.

This month's estimate of the U.S. corn crop is a bit tighter than last month, in part reflecting wet weather during the harvest.

Sorghum stocks on September 1 were lower than projected—1989/90 exports and feed and residual use were higher than expected.

### Soviet Union Is The Question Mark

The Soviet Union is the single most important source of year-to-year variability in world grain trade. And this year's political and economic turmoil heightens the uncertainty about Soviet grain purchases.

The Soviet Union is expected to harvest its largest crop since the 1978/79 record. Combined wheat and coarse grain production is forecast to be up 25 million tons, 13 percent larger than last year's large crop. Because of the larger crop, import needs this year are likely to be 14 million tons of wheat and 16 million tons of coarse grains, compared to 14 and 23 million a year earlier.

The Soviet harvest is late, although the pace has recently picked up and state procurements are rising. Reports of failure to harvest grains and potatoes, large crop losses, fuel shortages, and transportation problems are widespread. While government procurements will be sharply below target, they are expected to be up from last year. The increase will be well below what would have happened in past years when output rose sharply.

Through the end of September, however, the Soviets had purchased very little wheat on the world market for 1990/91 delivery. Imports during July-September were minimal. Coarse grain purchases also were slow, but these normally increase in the fall and winter. Questions remain about the Soviets' ability to pay for imports; the country reportedly is searching for credit.

The USSR is looking to import flour, although imports are normally small. While the reasons for this interest are not clear, purchases from Europe have been reported and the U.S. has offered an EEP initiative for 500,000 tons of wheat flour. The U.S. normally exports about 1.1 million tons of flour annually, more than half of which goes to Egypt. So such a sale would have a sizable impact on the U.S. milling industry.

### Oilseed Stocks To Tighten

Soybean planting is now underway in the Southern Hemisphere, and will continue through January. Expectations for the crop have been scaled back over the last several months. In Brazil, economic uncertainty, a move to a regionalized pricing system that discourages production in the western region, and less favorable access to credit for export crops are forecast to limit output.

Production for all of South America is forecast to only equal last year's crop. However, the margin for forecast error at this time is still very large.

A smaller 1990 U.S. soybean crop and modest beginning stocks are meshing with continued strong domestic demand for oilseeds, but more modest demand

strength in the many key oilseed importing countries. As of mid-October, contracts for January delivery were closing around \$6.30 a bushel. The price strength probably results from late-season dryness in the southern producing regions. In addition, the Midwest's crop maturity trailed the norm. Crush in 1990/91 is projected up 3 percent despite the smaller crop.

Severe drought in the Southeast has produced the lowest peanut yields since the drought of 1980. Estimated 1990 peanut production is 3.4 billion pounds, 16 percent below last year. And, not only is the crop small, quality is down, so even less is suitable for consumption.

Tighter supplies and higher prices will slash peanut exports by more than 50 percent to 450 million pounds. Higher consumer prices and lower quality mean there will be virtually no growth in domestic food use.

For sunflowers, plantings were up this year and growing conditions were favorable during most of the summer. So, production is expected to reach 957,000 metric tons, up 20 percent from a year ago. The 1990 crop is expected to face strong demand. Crush is forecast to reach 595,000 tons, up 9 percent from a year earlier.

Demand for sunflower seeds is forecast to nearly match output, allowing only a small increase in ending stocks next year. Season-average prices likely will rise slightly, ranging between \$240 and \$290 per ton. [Allen Baker (202) 219-0831 and Frederic Surls (202) 219-0824.]

For further information, contact: Sara Schwartz, world food grains; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Pete Riley, world feed grains; Larry Van Meir and Jim Cole, domestic feed grains; Cathy McKinnell, world oilseeds; Roger Hoskin, domestic oilseeds; Carolyn Whitton, world cotton; Scott Sanford, domestic cotton; Jim Schaub, domestic peanuts. World information (202) 219-0820; domestic (202) 219-0831. **AO**

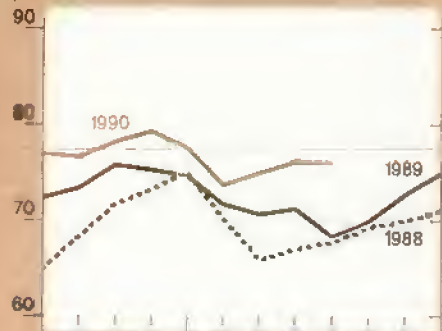


## Commodity Market Prices

## Agricultural Economy

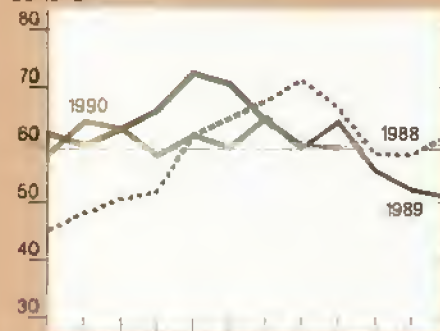
Choice steers, Omaha

\$/cwt.

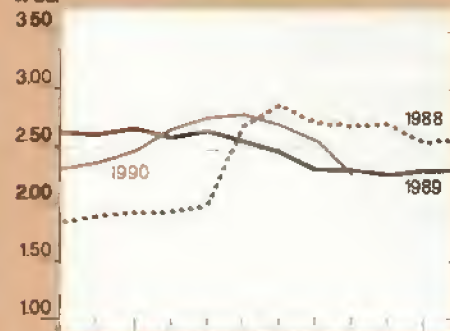


Broilers, 12-city average

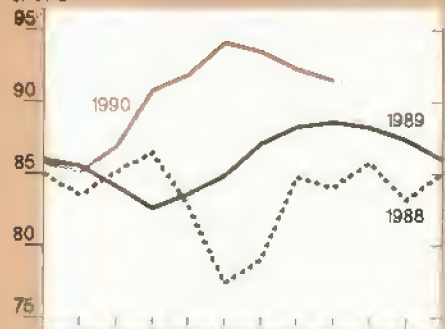
Cents/lb

Corn, Chicago<sup>3</sup>

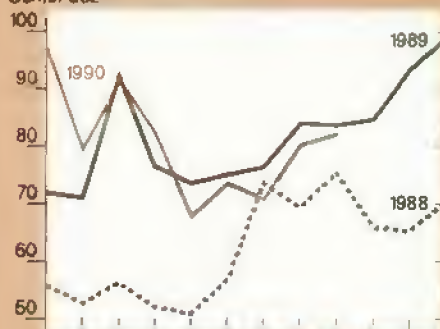
\$/bu.

Feeder cattle, Kansas City<sup>1</sup>

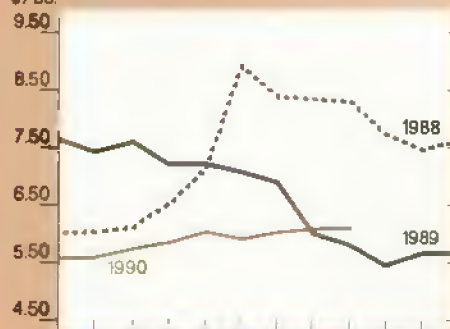
\$/cwt.

Eggs, New York<sup>2</sup>

Cents/doz

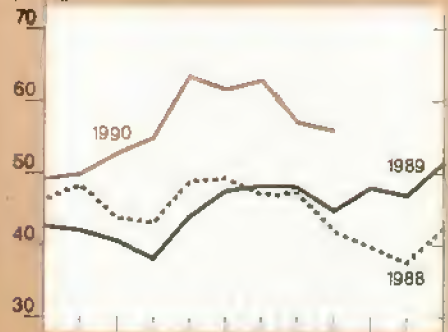
Soybeans, Chicago<sup>4</sup>

\$/bu.

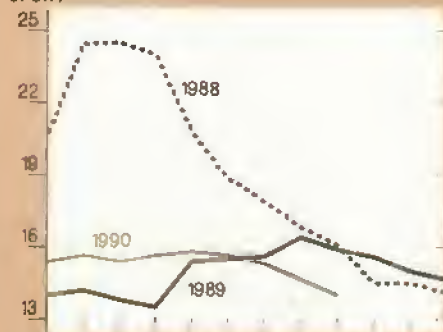


Barrows and gilts, 7 markets

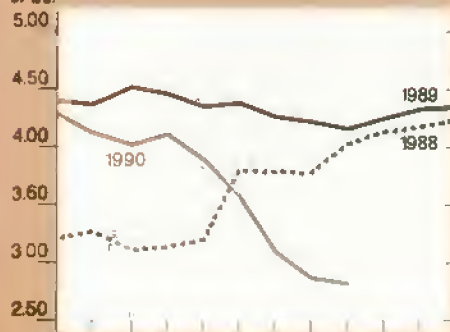
\$/cwt.

Milled Rice, SW Louisiana<sup>5</sup>

\$/cwt

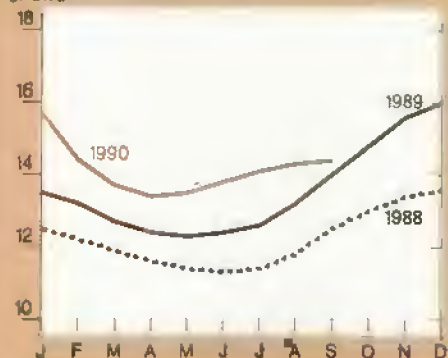
Wheat, Kansas City<sup>6</sup>

\$/bu.



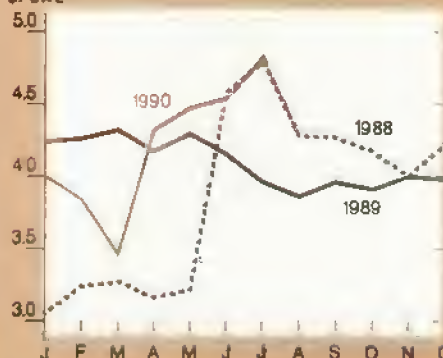
All milk

\$/cwt.



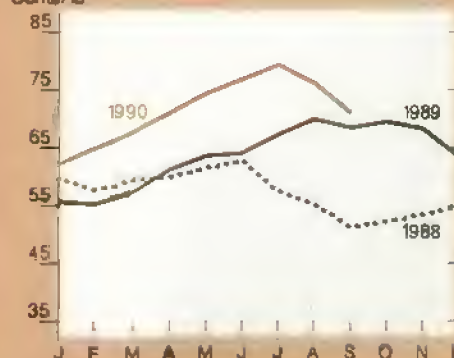
Sorghum, Kansas City

\$/cwt.



Cotton, average spot market

Cents/lb



<sup>1</sup>600-700 lbs., medium no. 2    <sup>2</sup>Grade A large    <sup>3</sup>No. 2 yellow,    <sup>4</sup>No. 1 yellow.    <sup>5</sup>U.S. No. 2 long-grain.    <sup>6</sup>No. 1 HRW.



## Agricultural Economy

# Specialty Crops Overview

*Florida's orange output, recovering from last season's freeze, is forecast to rise 50 percent in 1990/91. However, California's crop, suffering from a summer of excessive heat, probably will be smaller than a year earlier. Fresh orange prices are likely to decline from last year.*

*Grapefruit production is forecast to increase in 1990/91 as Florida's crop recovers. Prices are expected to drop from a year earlier, especially for California's grapefruit. Florida's exports will rebound.*

*World sugar prices fell almost 20 percent in the third quarter, reflecting weak import demand and prospects of more sugar output in Western Europe. Higher production in China and several smaller importing countries will cut import demand this season.*

## Citrus Bounces Back

Total U.S. orange production is forecast to be 9.9 million short tons, up 27 percent from 1989/90. Florida's crop is expected to rebound from last season's freeze-induced losses.

The early orange crop in Florida is forecast to be 95 million boxes (4.3 million short tons), up 40 percent from 1989/90. Fruit sizes are reported larger than normal for this stage in the growth cycle, and the crop continues to make good progress. Florida's Valencia production is expected to total 70 million boxes, compared with 42.1 million last season. The bulk of Florida's orange output goes into processing.

Extended periods of extremely high temperatures in California's farming valleys this summer caused excessive sunburn to oranges and stand to reduce 1990/91 output. The early orange crop in California (including navel oranges) is forecast to

be 40 million boxes (1.5 million short tons), down 9 percent from a year earlier but 18 percent above 2 years ago. Most California navels are sold as fresh oranges.

Grower prices probably will be lower than a year ago because Florida will return to the fresh market. With quality a key factor affecting exports, prospects of a lower quality navel crop this year also may put downward pressure on domestic fresh prices.

Florida's oranges are expected to yield an average 1.52 gallons of frozen concentrated juice (FCOJ) per 90-pound box (42 degrees Brix) during the 1990/91 season. Juice yield is a key factor in FCOJ production. The 1989/90 yield, 1.23 gallons per box, was lowered by the freeze in December.

FCOJ prices during the coming season likely will be lower than a year ago. Brazilian exporters and Florida processors lowered prices in late August, perhaps to speed sales and reduce inventories in anticipation of ample supplies for the coming year. Although Brazilian output likely will slip this year, higher Florida output would partly offset any such shortfall.

Grapefruit production in the U.S. (excluding the non-desert areas of California) is expected to be 31 percent larger than in 1989/90, but 13 percent below 1988/89. Florida's crop is forecast to be 50.5 million boxes, up 41 percent from 1989/90, while California's "desert" output is forecast to be 3.9 million boxes.

However, Texas is not expected to harvest a commercial crop this year because the trees there have not yet recovered from 1989's freezing temperatures. While the freeze reduced Florida's production last season, most trees survived to produce this year.

Fresh grapefruit prices likely will be lower than a year earlier, especially for the California crop. California growers benefited from high prices in 1989/90 following output losses in Florida and Texas. Florida grapefruit exports will rebound this season because of greater production and lower Texas shipments.

## Vegetable Use Continues Upward

Vegetable use (excluding potatoes, sweetpotatoes, and canning tomatoes) rose 1 percent to an estimated 140 pounds a person in 1989. Most of the gain was from increased use of fresh vegetables, especially lettuce and sweet corn. Fresh vegetable use has grown an average 2.3 percent a year between 1979 and 1989.

Gains in per capita potato consumption averaged 0.5 percent a year between 1979 and 1989. Fresh use declined about 0.6 percent a year, while frozen potato use rose an average 1.9 percent annually. Sweetpotato use has declined about 2 percent a year since 1979.

Harvested area for seven fresh market vegetables in major producing states this fall is estimated 3 percent lower than a year ago. Decreases in the acreage of carrots, lettuce, and tomatoes offset small increases in broccoli, cauliflower, and celery. Sweet corn acreage was about the same as a year ago.

Tomato acreage in Florida fell 7 percent. Florida accounted for 98 percent of fall fresh tomato production in 1989. The lettuce area for harvest is down 5 percent from 1989, with the Blythe area of California off 55 percent. A combination of low returns and a heavier than normal concentration of mosaic virus led to the decline in Blythe area production.

U.S. onion production is estimated up 13 percent in 1990 to a record 54.1 million cwt. Acreage is up 7 percent and estimated yields are 5 percent higher than a year earlier. Substantially higher yields in New York and larger summer acreage in California accounted for most of the output gain. So prices likely will fall below a year earlier.

## World Sugar Crop Up, Prices Drop

World sugar prices fell almost 20 percent in third-quarter 1990 to 11-13 cents a pound, and were near 10 cents in early October. The sharp drop reflects gener-



## Agricultural Economy

ally weaker import demand and prospects for more sugar production in Western Europe this season.

Global sugar consumption is forecast to be 109.3 million metric tons, raw value, in 1990/91. Yet, production is catching up. Increased output in the EC, China, India, Guatemala, and Sweden stands to more than offset significant expected reductions in Mexico, Czechoslovakia, the Dominican Republic, and the U.S.

World sugar imports in 1990/91 are forecast to be 28.7 million tons, down about 800,000 from the season just ended. Higher production in China and several smaller importing countries will reduce import needs.

Monthly prices during last season illustrate how volatile world markets have been. Raw sugar prices (f.o.b. Caribbean, Contract No. 11) averaged 14.13 cents a pound last September, rose to 15.39 in March, and then dropped to 10.92 in August.

Events in the Middle East could lead to additional price volatility in 1990/91. Middle Eastern countries are forecast to account for about 13 percent of world sugar imports in 1990/91, and any disruption in trade could limit this demand, causing prices to fall even more.

As at least a partial offset, some oil-exporting countries that reap windfall profits from higher oil prices probably would import additional sugar, thereby increasing demand and putting upward pressure on prices. Several oil exporting countries, such as Nigeria, Indonesia, and Venezuela, boosted sugar imports in the late 1970's and early 1980's when high oil prices resulted in trade surpluses.

U.S. beet and cane sugar production for the 1990/91 crop year (September-August) is estimated to be 6.5 million short tons, raw value, down slightly from a year earlier. The decline is due to a sharp drop in cane sugar production in Louisiana, where much of the crop was destroyed by last December's freeze.

## Thai Market Opened To U.S. Cigarettes

In early October, Thailand lifted a 10-year ban on cigarette imports, signaling another export opportunity for the U.S. tobacco industry. U.S. tobacco and tobacco product exports rose substantially during the 1980's because of reduced trade barriers in several Far Eastern countries (Japan, Taiwan, and South Korea), rising incomes in developing countries, and the drop in the value of the dollar. U.S.-manufactured cigarettes, because of their high quality and skillful marketing, are considered a status symbol in many countries.

The Thai action was in response to a General Agreement on Tariffs and Trade (GATT) ruling against the ban on imports of foreign cigarettes. Because of health concerns about smoking, the Thai government continues a ban on all cigarette advertising. The GATT ruling upheld the Thai advertising ban. [Glenn Zepp (202) 219-0883]

For further information, contact: Kate Buckley, fruit; Gary Lucier, vegetables; Peter Buzzanell, sweeteners; Verner Grise, tobacco; Doyle Johnson, tree nuts and greenhouse/nursery; David Harvey, aquaculture; Lewrene Glaser, industrial crops. All are at (202) 219-0883. **AO**

## Commodity Spotlight



## U.S. Cotton: What's Ahead?

Devotees of "King Cotton" in the U.S. know well how far it has slipped from the golden years of the 1920's and 1930's. Back then, crops occasionally reached 17-19 million bales and purchases regularly exceeded 14 million. But, many view the 1980's as a turnaround decade.

Is it onward and upward for cotton in the 1990's? Quite possibly, but not this season. While mill use and exports in 1990/91 probably will slip from the heights of last season, the pause is expected to be brief.

Last season's strong demand will be hard to surpass, with retrenchment likely for both domestic mill use and exports. Forecasts place 1990/91 (August-July) domestic mill use at 8.2 million bales, down 6 percent from last season, and exports at 6.8 million, down 13 percent.

With beginning stocks of 3.0 million bales and production projected to be 14.6 million, expected offtake of 15.0 million probably will push down 1990/91 ending stocks 10 percent to a low 2.7 million.

## Commodity Spotlight

### The 1980's Marked A Rebirth

Last season ended a decade of resurgence in U.S. cotton mill use and exports. After declining steadily through the 1970's as cotton lost market share to manmade fibers, domestic mill use rebounded in 1982 and increased an average one-half million bales annually through 1989. During the 1980's, U.S. exports averaged nearly 6 million bales a year—800,000 above the previous decade.

In 1989/90, domestic mills used 8.75 million 480-lb. bales of cotton, a 22-year high, and the fifth consecutive year of strong growth. U.S. raw cotton exports surged as well—to 7.69 million, the highest in 10 years. Total offtake, the sum of exports and mill use, was the largest since 1959.

### Growers Respond To Consumer Interest

Renewed consumer interest in natural products in the 1980's—from high-fiber grain breakfast cereals to all-cotton dress shirts—is behind the brighter prospects for cotton. And the industry aggressively developed this interest. Industry efforts have ranged from improving fiber quality in the field to promoting cotton apparel in the market.

During the 1980's, U.S. cotton growers contributed nearly \$200 million toward research and promotion through a per-bale assessment on their output. Highly acclaimed advertising campaigns funded by these contributions have helped generate widespread consumer support for U.S. cotton products.

In addition, U.S. cotton has benefited from a number of other factors, including:

- the second-longest peacetime economic expansion in history;
- tight foreign markets in 1985-89 (foreign consumption exceeded production by nearly 8 million bales a year);

- the decline in cotton fiber prices relative to polyester during the 1980's; and
- declines in the dollar against currencies of other major cotton exporters.

Not surprisingly, low stocks and strong demand have benefited domestic producers. The average price received by farmers for U.S. upland cotton rose from 55.6 cents per pound in 1988/89 to an estimated 63.3 cents during the first 8 months of 1989/90. And cash prices reached 69 cents in mid-October.

Higher prices and a relatively responsive cotton program generated new interest in production among many farmers and revived the interest of others who had abandoned the crop in earlier, leaner years. This is particularly evident in the Southeast (Ala., Ga., S.C., N.C., Fla., Va.) and Delta (Miss., La., Ark., Tenn., Mo.)

Before the 1980's, cotton production had virtually disappeared from the Southeast, despite its historic role in the region's economy. From 1982 to 1990, cotton base acreage in the Southeast increased by 350,000 acres, or 41 percent, to 1.2 million.

Because base acreage for cotton can be the average of the past 2 years of planting history, new growers can get price

and income support through the program relatively quickly. And ongoing efforts to eradicate the boll weevil have cut the impact of cotton's number one economic pest in the region (see the Resources Department).

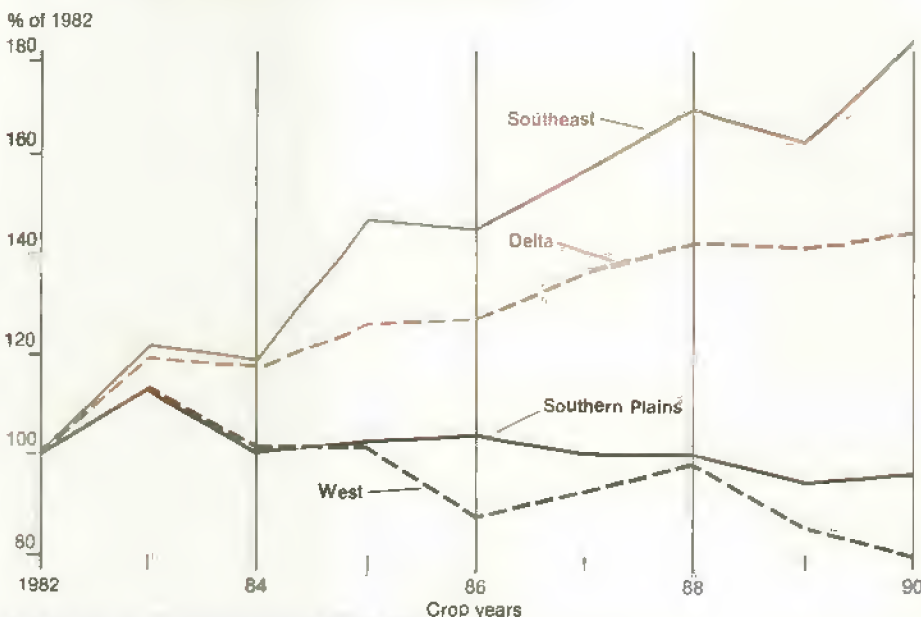
Cotton acreage has contracted in the Southern Plains (Texas, Okla., Kan.) and West (Calif., Ariz., N.M., Nev.). In the Southern Plains, plantings have fallen because many growers put cotton acreage into the Conservation Reserve Program. Some 1.3 million acres of cotton base have been enrolled since 1986, with 1.1 million in Texas alone. In the West, an extended lack of moisture has cut cotton acreage.

### U.S. Supplies Likely To Tighten

Many of the factors that buoyed cotton use in the 1980's are expected to hold down offtake during 1990/91. An estimated domestic supply of 17.6 million bales, 1.7 million less than last season and the lowest since 1985/86, suggests there is simply less domestic cotton available. Conversely, foreign production is expected to rise by over 7 percent against a less than 1-percent increase in foreign consumption.

As a result, U.S. exports are forecast to decline, and the U.S. share of world cot-

Cotton Acreage Rises In the Southeast and Delta



Planted plus diverted acreage.



ton trade is expected to fall from 32 percent last season to 28 percent.

Over the past several months, declining polyester prices have given an edge to manmade fibers. While this price advantage may have lowered cotton mill use so far this season, the jump in oil prices likely will drive polyester prices higher in coming months. In addition, the recent weakening in the economy probably will put downward pressure on mill use this season.

Recent progress to improve the U.S. balance of trade and attempts to reduce the federal deficit will lend strength to the value of the dollar. This would dampen U.S. cotton exports. While the dollar has appreciated modestly against the currencies of those countries that import U.S. cotton, it has stayed about even with the currencies of competing exporters.

Nonetheless, the longer-term trend of increasing consumer preference for cotton and the efforts of producers to keep their product competitive suggest a brighter outlook beyond this season.

[Scott Sanford (202) 219-0840] AO

## More Fruit To Mexico

**L**ong a net importer of Mexican fresh and processed fruits, the U.S. now stands to export more fruit to Mexico and perhaps narrow this trade gap. Mexican economic reforms and the gradual relaxation of trade barriers over the past 3 years have been reshaping the patterns of U.S.-Mexican trade.

U.S. exports of some fruits to Mexico have already posted tremendous gains. Moreover, higher world oil prices and the prospect of a U.S.-Mexico free trade agreement are stimulating the Mexican economy and improving the outlook for U.S. exports.

Mexico produces a variety of fruits including citrus, strawberries, avocados, mangos, grapes, apples, peaches, pears, pineapples, and bananas. But unlike vegetables, where a large industry developed primarily to supply U.S. and Canadian markets with off-season fresh vegetables and later expanded into frozen vegetables, many Mexican fresh fruits go primarily to the domestic market.

Nevertheless, Mexico does export significant quantities of some fruits—including grapes, strawberries, limes, mangos, and pineapples—to the U.S.

The U.S. imports Mexican strawberries during the winter when domestic production is seasonally low. Mexican limes, mangos, and pineapples supplement limited U.S. production. The U.S. imports Mexican grapes during the late spring just as Southern California begins to harvest its grape crop.

Up until recently, Mexican imports of U.S. fresh and processed fruit have been sporadic and negligible, constrained by high tariffs, import licensing regulations, and low consumer incomes. Now, government moves to liberalize trade and several other supply and demand factors are working to increase Mexican imports.

First, consumers are enjoying stronger purchasing power and generally lower prices for fresh fruit following Mexico's recent domestic policy reforms and its easing of tariffs and import licensing regulations. Second, weather and disease problems have reduced Mexican production of some tree fruits during the past several seasons.

Finally, Mexican producers are being squeezed by a shift in agricultural credit policies favoring other commodities, generally high interest rates, and reduced input subsidies.

## Prospects Good For Noncitrus...

Prospects for expanding U.S. fruit exports to Mexico appear strongest for fresh apples, pears, and stone fruits. Mexico's production of these fruits is not expected to increase much in 1990/91 due to earlier frost and hail damage. In addition, tight credit, high interest rates, rising input prices, and limited water supplies in major producing areas are holding down growth.

Bad weather earlier this year significantly reduced prospects for the 1990 Mexican apple crop. Although output is expected to be 4 percent larger than the 474,000 metric tons harvested in 1989, it still will be 21 percent smaller than the 1988 crop. Growth in Mexican apple area has slowed in recent years, but planted area probably will expand quite a bit anyway during the next 3-5 years.

Until May 31, 1991, importers are required to obtain permits from the government before apples can legally enter Mexico. Imports were allowed without permits for restricted periods in 1988 and 1989, but permits were required and not issued during all other times.

However, because of tight supplies earlier this year, the Mexican government issued permits in May for 2,250 metric tons of apple imports and then issued permits for another 3,500 metric tons in August. Mexican apple imports are also subject to a 20-percent tariff.

## Commodity Spotlight

### U.S. To Export More Apples, Pears, Nectarines, and Peaches to Mexico



Mexico Fruit Producing States	
State	Fruit
Baja California	Strawberries
Chihuahua	Apples Peaches & nectarines Pears
Colima	Mangos Persian seedless limes
Durango	Apples
Guanajuato	Strawberries
Guerrero	Mangos Persian seedless limes
Jalisco	Persian seedless limes
Michoacán	Peaches & nectarines Persian seedless limes Mangos
Nayarit	Strawberries Mangos

Mexico Fruit Producing States	
State	Fruit
Nuevo Leon	Oranges Tangerines
Oaxaca	Mangos Pineapples
San Luis Potosí	Oranges
Sinaloa	Mangos
Sonora	Peaches & nectarines Table grapes
Tamaulipas	Oranges Tangerines
Veracruz	Oranges Pineapples Persian seedless limes Tangerines
Zacatecas	Peaches & nectarines Table grapes

U.S. peach and nectarine exports to Mexico also are expected to rise in 1990/91 due to the liberalization of import regulations and because Mexican production has expanded only moderately over the past few years. Permits are required for shipments made between July and October, and a 20-percent tariff must be paid on all shipments.

Mexico is proving to be a bright spot for U.S. pear producers who have harvested record crops the past few seasons. After Mexico dropped its import permit requirements 2 years ago, U.S. exports to Mexico have more than doubled and the country has become second only to Canada as an export market. Mexican fresh

pear imports are subject to a 20-percent tariff.

U.S. pear exports to Mexico are expected to continue rising. Tight credit and a fungal outbreak in Chihuahua, the largest Mexican producing area, have reduced planted area and prevented additional pear plantings over the past few years. In addition, USDA's Targeted Export Assistance (TEA) program has been helping the U.S. pear industry develop markets in Mexico.

### ...But Limited For Citrus

Prospects are much more limited for increasing U.S. fresh and processed citrus exports to Mexico. Mexico is a pro-

ducer and exporter of many citrus commodities, including fresh oranges, orange juice, fresh tangerines, and limes.

Mexico only recently opened its market to citrus imports following its entry into the GATT in 1987. Imports are subject to a 20-percent tariff and require a sanitary authorization issued by the Secretariat of Agriculture before entry is granted.

U.S. fresh orange exports to Mexico were insignificant before 1989, when the Mexican government began encouraging imports to boost supplies and drive down prices in a market dominated by only a few sellers. Mexican trade policies are expected to continue to favor fresh orange imports to hold down domestic food price inflation and to manage supplies. But imports are expected to remain a small portion of total Mexican consumption as the lower-cost domestic industry continues to expand.

Mexican orange area is expanding rapidly due to strong domestic demand for fresh oranges and growth in U.S. markets for orange juice and peeled orange slices. Mexican consumers also are developing a taste for processed orange juice and orange juice-based soft drinks, which is stimulating Mexican and U.S. investment in domestic processing plants.

Mexico's rapidly expanding citrus industry is likely to provide few incentives for increasing U.S. exports except during seasonal supply shortfalls. [Kate Buckley (202) 219-0884] AO



## World Agriculture and Trade



### Ag Reforms Down Under

**H**eated debate and rancor have proliferated in the current GATT talks on how to reduce trade-distorting agricultural subsidies. The general stance of the U.S., the EC, and Japan is that domestic agricultural reforms are conditional on multilateral liberalization.

However, while most countries have yet to initiate substantial policy reforms, Australia and New Zealand have begun to abandon their protectionist policies.

Even without a successful conclusion to the Uruguay Round, a comprehensive unilateral reform that reduces assistance to all sectors of New Zealand's and Australia's economies will make some of their agricultural exports more competitive, and will substantially boost the welfare of their citizens. Agricultural producers stand to benefit from lower input costs.

Australia and New Zealand have capital-intensive, export-oriented agricultural sectors and highly protected manufacturing sectors. Even though agriculture accounts for a declining share of national output in both countries, their governments are committed to fostering its continued role in generating foreign

exchange. Both governments believe they can realize this commitment by making agriculture more responsive to market signals.

While historically both countries had the lowest support for agriculture among developed countries, protection for agriculture grew during the 1970's and early 1980's in part to offset high tariffs protecting other sectors. By the 1970's, inward-looking trade and industrial policies, focused on providing support to domestic industries, caused both governments to be burdened by increasing budget deficits, rising overseas debt, slipping standards of living relative to developed nations, and declining terms of trade (i.e., export prices relative to import prices).

But it took a severe crisis in external trade balances and terms of trade, during 1984 in New Zealand and 1985 in Australia, to precipitate economywide reforms and a general lowering of assistance. Farm organizations in both countries, confronted with high inflation, declining terms of trade, and high support to import-competing industries, supported the reforms.

The increased export competitiveness resulting from the policy reforms is of particular interest to U.S. producers and

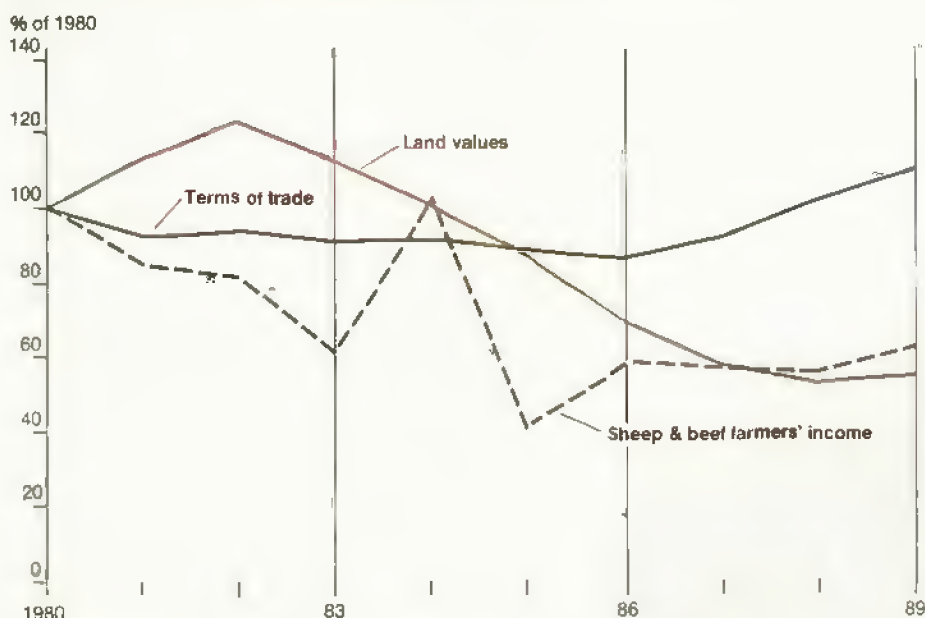
policymakers. Australia and New Zealand are low-cost agricultural producers and large-scale exporters of temperate-zone farm commodities that often compete with U.S. products in world markets.

Unilateral reform is likely to be associated with increased market shares for several commodities for both countries. However, structural change in agriculture has been small and hard to document. Nonetheless, the elimination of producer assistance in New Zealand stimulated farmers to follow moves in international prices and start shifting away from sheep into beef and dairy production. In addition, there was a shift into deer and goat production.

### Ag Bears Brunt Of N.Z. Reform

New Zealand's economy has long depended on agriculture and other primary industries for export earnings. In 1989, pastoral commodities contributed 57 percent of total export receipts of NZ\$14.5 billion (US\$8.5 billion). While agriculture's share of GDP has declined substantially over the past two decades and exports have become more diversified, the traditional export commodities—wool, meat, and dairy products—remain the backbone of New Zealand's trade.

New Zealand's Ag Reforms Bring Lower Land Values and Farm Incomes



In 1984, a 20-percent devaluation of the New Zealand dollar resulted in high real returns.

## World Agriculture and Trade

In the late 1970's, New Zealand's agricultural sector was confronted with declining terms of trade and falling incomes. The government responded with price supports primarily in the form of concessionary loans and direct payments. Most of this assistance was directed to lamb and mutton producers.

Despite extensive support, net real farm incomes continued to fall. In 1984, the newly elected Labor government instituted economywide reforms, principally the deregulation and liberalization of financial and commodity markets. While the reform program originally targeted diverse sectors of the economy, agriculture has borne the brunt of the changes thus far.

The comprehensive economic reforms transformed the agricultural sector from being highly dependent on government assistance and intervention to being almost totally market-oriented. But this has come at considerable cost to both the farm sector and individual producers.

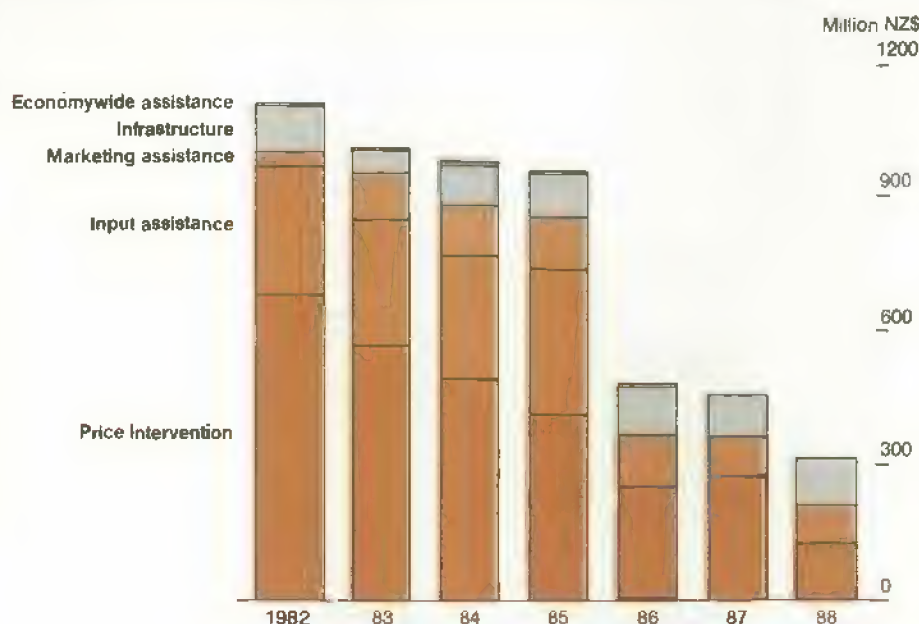
The elimination of direct assistance to agriculture in 1985 immediately depressed the incomes of agricultural producers. Average real net income for sheep and beef farms declined throughout the 1980's, and, despite increasing in 1989, was still only 60 percent of its 1980 level.

The decline was compounded by an appreciating currency in 1985-87, which lowered the prices of imports relative to exports, including farm products. Farmland values plummeted over 60 percent in real terms between 1982 and 1989.

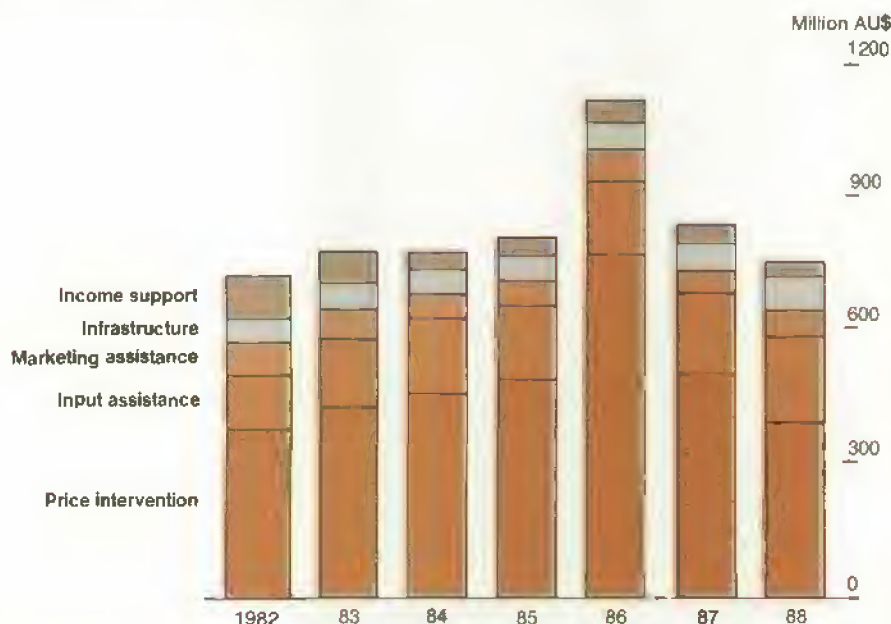
Declining farm incomes curtailed investment in agriculture, jeopardizing future productivity gains. And additional revenues from higher world commodity prices in 1989 were mostly used for debt servicing instead of farm investment.

Despite the reforms and the recent upswing in incomes and terms of trade, New Zealand's agricultural sector will continue to be disadvantaged and its potential for enhanced competitiveness stifled by uncompleted domestic reform. Specifically, assistance to import-competing industries and labor market inflexibil-

### While Direct Support to New Zealand Farmers Has Diminished . . .



### . . . Australian Producers Still Receive Income and Price Support



ities continue penalizing the agricultural sector by imposing higher input costs. However, consumers benefit from lower prices and a lighter tax burden.

### Aussie Ag Reform Incomplete

Australia, like New Zealand, recognized early on its natural comparative advantage in agricultural production and the

importance of the farm sector in generating export revenue. Now, farm products account for approximately one-third of export earnings, down from 65 percent in the early 1960's.

Since World War II, Australian agriculture has been dominated by wool, wheat, and meat. Together, they accounted for approximately two-thirds of the AU\$23.2 billion gross value of farm production in 1989 (US\$18.3 billion).



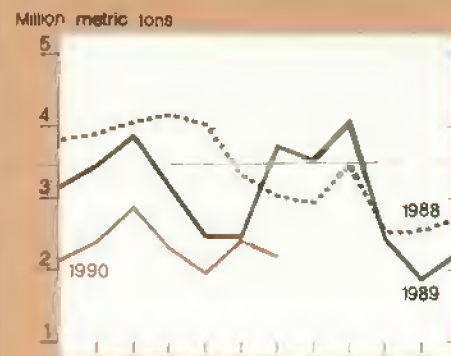
## U.S. Trade Indicators

## World Agriculture and Trade

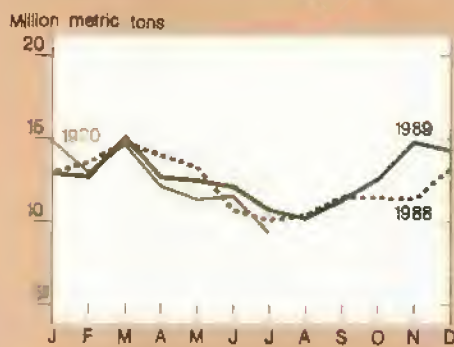
U.S. agricultural trade balance



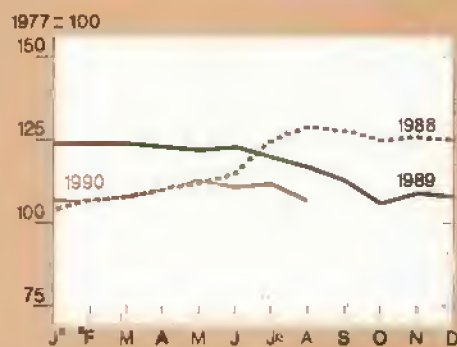
U.S. wheat exports



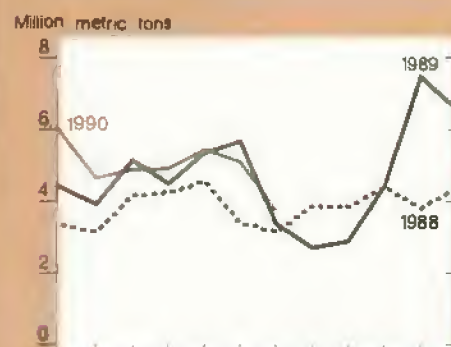
Export volume



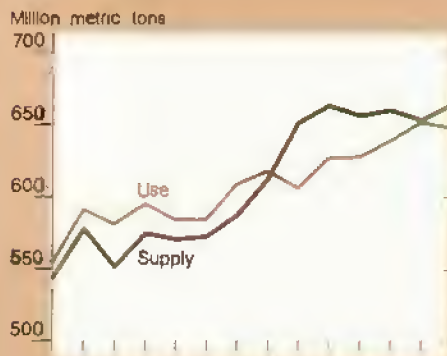
Index of export prices



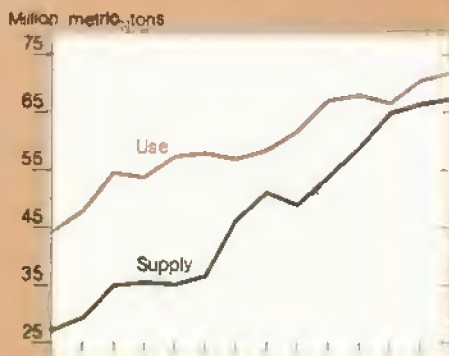
U.S. corn exports



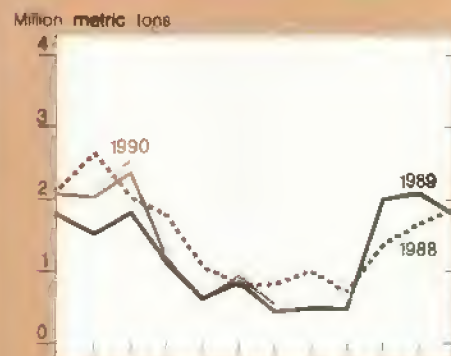
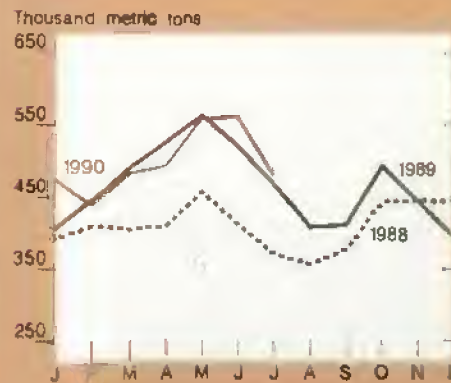
Foreign supply &amp; use of coarse grains



Foreign supply &amp; use of soybeans



U.S. soybean exports

U.S. share of world coarse grains exports<sup>1,2</sup>U.S. share of world soybean exports<sup>1,2</sup>U.S. fruit & vegetable exports<sup>3</sup><sup>1</sup>Excluding intra-EC trade<sup>2</sup>October-September years.<sup>3</sup>Includes fruit juices

## World Agriculture and Trade

In the early 1980's, Australia instituted general economic reforms that devalued and subsequently floated its dollar and deregulated the financial system. These were recently complemented by a series of sector-specific reforms.

Those directly affecting agriculture include eliminating discriminatory pricing policies between the domestic and export markets for wheat and sugar, opening the domestic wheat market to buyers other than the Australian Wheat Board, phasing down government price supports, and gradually reducing border measures. Australia's embargo on sugar imports was recently converted to a fixed tariff that is to be phased down over 3 years.

Australia's commitment to trade liberalization is manifest in its May 1988 Economic Statement, which details an economywide program of tariff reductions, accompanied by reductions in subsidies and protection to specific sectors of the economy.

The agricultural sector was not spared in the reduction in assistance. Fertilizer subsidies were terminated. Tariffs on orange juice, dried vine fruit, and tobacco were included in more general phasing-down arrangements, which reduced the tariffs from 25-30 percent to a planned 15 percent by July 1992. And on July 1, 1989, the domestic wheat market was deregulated.

While the reforms implemented in the late 1980's led to significant reductions in overall government support to agriculture, major reforms to date have only been instituted by the national government. Further progress towards a complete market orientation for agriculture requires complementary legislation by the individual states. Reform generally has been slower and uneven at the state level.

### More Non-Ag Reform Needed

While changes in Australia's and New Zealand's trade and industry policies have had similar goals, these changes have differed in scope and timing. Agricultural reform in Australia has been less complete and slower than in New Zealand, principally due to the federal nature of Australia's political organization. In contrast, New Zealand's policy decisions have been made and approved more quickly by one national legislative body.

Despite a rhetoric of economywide reforms, liberalizing the agricultural sector in both countries has proven to be more politically expedient than reforming other sectors of the economy. Most importantly, both countries still need to address labor inflexibility and protection of import-competing industries, both of which impose higher costs on the agricultural sectors.

Although farmers in both countries acknowledge the costs of the reforms, most do not advocate reinstating support to agriculture. Rather, farm groups in both countries are directing their governments' attention to the distorting effects of protection for the manufacturing sector.

Increased competitiveness in Australia and New Zealand hinges on implementing an economywide reform process. This is crucial if farmers there are to get the full advantages of deregulation.

[Nancy Morgan (202) 219-0611] AO

## Agriculture in a World of Change

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U.S. Department of Agriculture  
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## General Economy

## Oil Shock Slows World Growth

**T**he latest oil price shock will moderately depress economic growth and push up prices in most countries, according to new estimates by the International Monetary Fund (IMF). Impacts will be most severe for economies already in a recession or downturn. For prospering economies with relatively low inflation rates, the effects likely will be more muted.

Real GDP in the industrial countries is projected to grow by 2.5 percent through next year, down from pre-crisis projections of 2.7 percent for 1990 and 2.9 percent for 1991.

However, growth in oil-importing developing countries in 1990 has been lowered to 1.75 percent from 3.0 percent. This reflects not only the oil price rise, but slower economic activity and import demand growth in the industrial countries. These countries took about 25 percent of U.S. agricultural exports in fiscal 1990.

In 1990, oil-exporting developing countries will grow twice as fast as other developing nations, at 3.5 percent, because of larger export earnings. The IMF estimates assume an average oil price of \$26 per barrel for the rest of 1990 and \$21 by the end of 1991. If the oil exporters repeat what they did during the last two oil shocks, some will boost their imports of U.S. agricultural products.

The estimate of consumer price inflation in the major industrial countries has been revised upward to 4.75 percent for 1990, a 0.75-percentage point increase from the May forecast, mainly due to higher oil prices. Only a small decline, to 4.25 percent, is now expected in 1991.

In the developing countries, high inflation rates will persist this year but may fall sharply next year if domestic stabi-



zation efforts succeed. However, if domestic policies accommodate inflationary pressures by increasing money supply growth or resorting to price controls, expectations of inflation will rise and eventually lead to even higher inflation.

### *Japan, Germany To Outpace U.S.*

Anemic activity in the U.S., Canada, and the U.K.—output growth forecast to average less than 1.5 percent through 1991 for the group—will pull down overall growth in the developed bloc to around 2.5 percent through next year.

A slowdown still is expected next year in Germany and Japan, the group's strongest economies, due primarily to production capacity constraints, higher oil prices, and high interest rates. Additionally, Japan has to contend with a moribund stock market, worries about reduced domestic bank lending, and slumping real estate prices. West Germany is absorbing the East German economy that, at best, is only half as productive.

Current account imbalances continue to narrow as the U.S. trade deficit declines along with Japan's surplus. Further reductions are expected in 1991, resulting from relative improvements in the balance of trade as the dollar's depreciation continues to spur foreign import demand.

Germany's large current account surplus will fall significantly as national savings are spent for East Germany's reconstruction. Western Europe will continue to prosper and benefit from expanded trade with an enlarged Germany and with the newly opened East European countries.

However, economic conditions in Eastern Europe will get worse before they get better. Real GDP for the region is expected to contract by 5.3 percent this year, a deterioration from earlier estimates of a 5-percent decline, and then improve only marginally in 1991.

Eastern Europe's ongoing transformation toward more market-oriented economies points toward increasing imports as well as exports. Structural reform will require imports of capital goods, and greater access to foreign markets will spur exports. Deteriorating terms of trade with the Soviet Union, particularly with respect to crude oil, probably will keep most current trade account positions in the red.

The more than doubling of world oil prices on spot markets has exacerbated Eastern Europe's plight, not only because of its dependence on oil imports, but because of the expected slump in Western Europe's growth. The worldwide scramble for money to pay higher oil import bills will put upward pressure on interest rates. There will be little relief for the region's debt-service burdens and hefty borrowing needs.

### *Developing Countries: Prospects Are Mixed*

Increased inflation triggered by higher oil prices will widen the disparities in real growth rates between developing countries that are net oil exporters and those that are net oil importers. The external debt of the oil importers was imposing constraints on imports prior to the shock.

The Pacific Basin countries of Asia still will experience growth rates exceeding 5 percent through 1991, relying chiefly on the momentum of impressive investment and trade activity. The rapid expansion

## General Economy

in Southeast Asia—especially in Thailand, Malaysia, and Indonesia—will counterbalance a slowdown in Taiwan and Korea.

Expectations of modest growth in Central and South America have now turned to worries about a contraction for the remainder of 1990. Four-digit inflation rates plagued Argentina, Brazil, and Peru in 1989 and the first part of 1990. Yet, stabilization programs have dampened inflation recently and likely will pull the region toward positive growth rates and the long-awaited recovery, perhaps as soon as next year.

External debt remains a burden in Latin America and Africa, and will increase 9 percent to \$1.4 trillion by the end of 1991 for all developing countries. The share owed to commercial banks will fall to \$518 billion, largely because of market-based debt conversions. Debt-reduction strategies involving creditor countries have trimmed loan principal and interest payments for Mexico, Venezuela, and the Philippines.

Much of the lower projected growth in the oil-importing countries results from tighter fiscal and monetary policies and less demand for their exports, rather than costlier oil. The projected recovery of developing countries starting in 1991 assumes a breakthrough at the Uruguay Round of trade negotiations, improved export prices relative to import prices, and sustained progress in international debt workouts.

### World Oil Supply Still Lags Demand

Total OPEC crude oil production rebounded from the August low of 19.7 million barrels a day to 22.2 million in September, due mainly to extra output from Saudi Arabia, the United Arab Emirates, and Venezuela. Oil prices have continued to climb because of fears over future shortfalls if war erupts in the Persian Gulf, and some panic buying. Prices would have risen more had the U.S., Japan, and Germany not temporarily stopped buying oil for their strategic reserves.

The industrial countries are less vulnerable than the developing countries to further shocks in the oil market. Developed countries have 60- to 90-day supplies of oil and fuel on hand, their industries are more energy-efficient, and they can more readily switch to alternative energy sources. Oil-importing developing countries generally have much higher oil-import requirements relative to their GDP.

Assuming present conditions and normal winter temperatures, the IMF expects oil prices to gradually decline through 1991. The increased output from OPEC and Mexico, sufficient world stocks, and a universal slowdown in economic activity will eventually stabilize prices at lower levels.

### Competition for Funds To Stabilize?

U.S. short-term interest rates have steadily declined since the spring of 1989 when domestic economic growth started to slow. At the same time, interest rates in Germany began rising as economic activity there heated up. And when the demand for investment funds and trade financing associated with the opening of Eastern Europe heightened, German interest rates shot up even more.

Meanwhile, the consumption and investment binge in Japan increasingly tightened financial market conditions there and pushed interest rates from 5 percent in March 1989 to 8.4 percent in September 1990.

When these trends started, the U.S. had the highest rates (10 percent), followed by Germany (7 percent), and Japan (5 percent) for short-term Eurocurrency deposits. Now, U.S. rates are the lowest at 8 percent, compared with 8.5 percent in Germany and Japan.

World competition for funds may soon stabilize as general economic activity begins to cool. This will happen if monetary and fiscal policies do not accommodate the increased demand for money induced by higher oil prices. [Alberto Jerardo (202) 219-0708] AO

### Upcoming Releases From the Agricultural Statistics Board

The following list gives the release dates of the major Agricultural Statistics Board reports that will be issued by the time the next *Agricultural Outlook* comes off press.

#### November

- 2 Egg Products  
Poultry Slaughter
- 6 Dairy Products
- 7 Celery
- 8 Crop Production
- 13 Farm Labor
- 14 Turkey Hatchery
- 16 Milk Production
- 19 Cattle on Feed  
Catfish
- 20 Sugar Market Statistics
- 26 Cold Storage  
Eggs, Chickens, & Turkeys  
Livestock Slaughter
- 28 Peanut Stocks & Processing
- 30 Agricultural Prices

### Upcoming Economic Reports

#### Summary Released Title

#### November

- 8 World Ag. Supply & Demand
- 9 Vegetables & Specialties Yearbook
- 14 Livestock & Poultry
- 15 Fruit & Tree Nuts
- 19 Wheat
- 20 Agricultural Outlook  
U.S. Agricultural Trade Update
- 21 Feed
- 26 Livestock & Poultry Update
- 27 Exports
- 30 Cotton & Wool

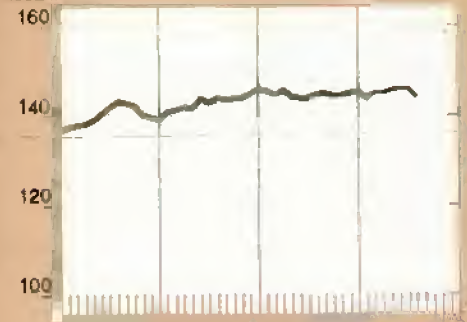


## General Indicators

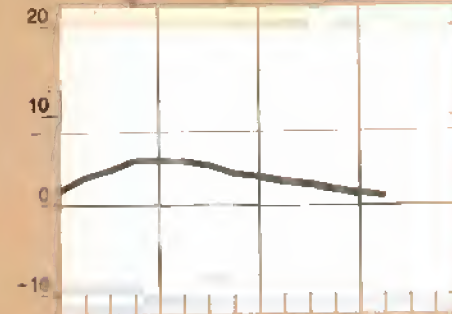
## General Economy

Composite leading economic indicators<sup>1</sup>

1982 = 100

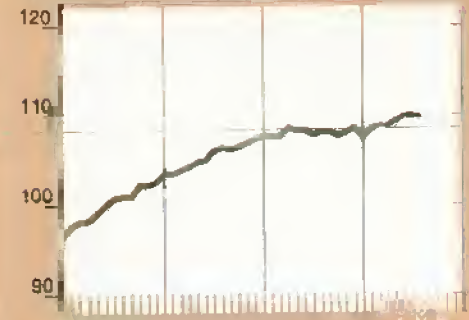
Gross national product<sup>1</sup>

Percent change from a year earlier

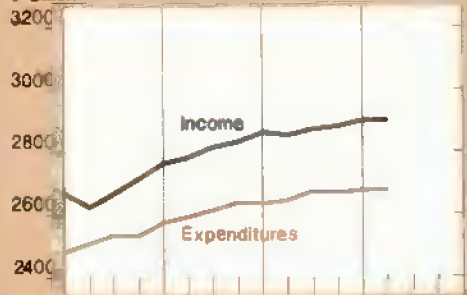


Industrial production

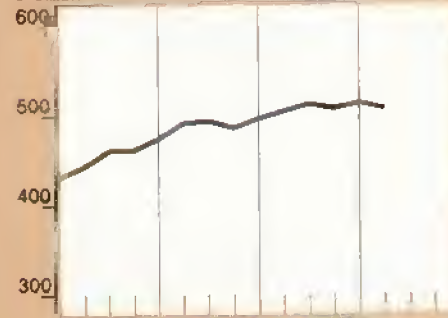
1987 = 100

Disposable income and consumption expenditures<sup>2</sup>

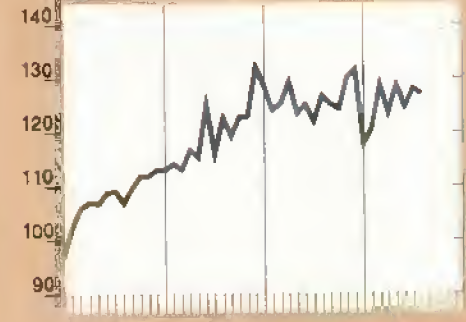
\$ billion

Nonresidential fixed investment<sup>2</sup>

\$ billion

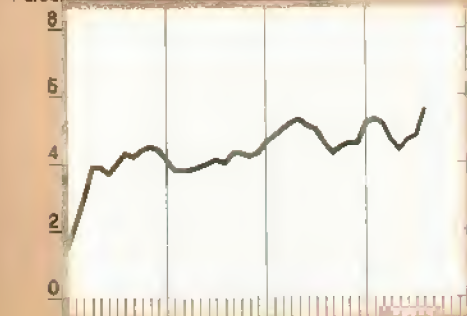
Manufacturers' durable goods orders<sup>3</sup>

\$ billion

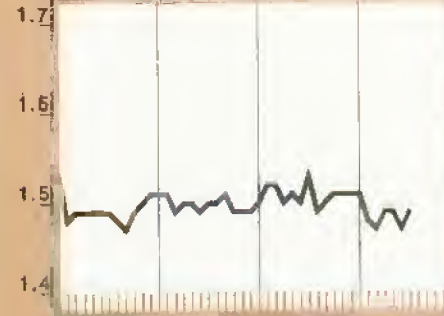


Consumer price index

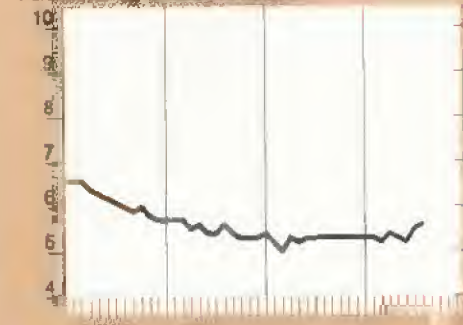
Percent change from a year earlier

Inventory/sales<sup>4</sup>

Ratio

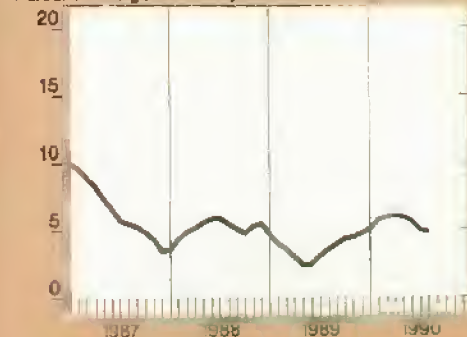
Unemployment rate<sup>5</sup>

Percent of all civilian workers



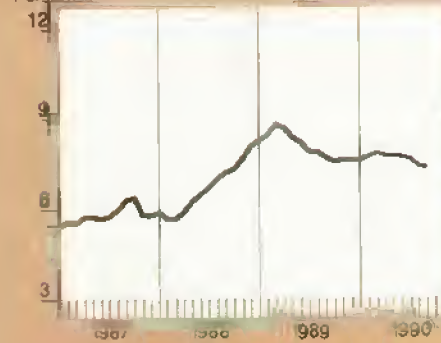
Money supply (M2)

Percent change from a year earlier

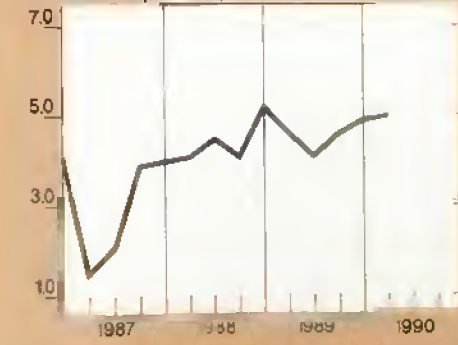


3-month Treasury bill rate

Percent

Savings rate<sup>6</sup>

Percent of disposable personal income



<sup>1</sup>Percent change from a year earlier in 1982 dollars. Seasonally adjusted annual rates. <sup>2</sup>Billions of 1982 dollars, seasonally adjusted at annual rates.

<sup>3</sup>Nominal dollars. <sup>4</sup>Manufacturing and trade, seasonally adjusted based on 1982 dollar. <sup>5</sup>Seasonally adjusted.

<sup>6</sup>Calculated from disposition of personal income in 1982 dollars, seasonally adjusted at annual rates.

Sources: U.S. Dept. of Commerce, U.S. Dept. of Labor, and the Board of Governors of the Federal Reserve System.

## Resources



## Cotton Farmers Control Chemical Use

Cotton acreage examined by professional scouts increased 37 percent between 1982 and 1989, according to USDA surveys of cotton farmers. Farmers use scouts' recommendations to hold down pest resistance, lower pest control costs, and boost the yield and quality of their crop.

Scouts help farmers by putting forward alternative pest management strategies. These include timing chemical applications based on observed pest population levels and other pest control practices. The strategies can mean fewer chemical applications and lower rates per application.

According to a 1989 survey, some common non-chemical pest management practices used by cotton farmers were: cultivation, stalk destruction, planting of resistant varieties, and use of pheromone traps.

Nonetheless, farm chemicals play a large role in cotton production. According to the survey, of the 10.2 million acres of

upland cotton planted in the 14 major producing states last year, 98 percent were treated with pesticides. Of these, 9.4 million were treated with herbicides, 7.4 million with insecticides, 5.4 million with desiccants or defoliants, 3.7 million with growth regulators, and 0.8 million with fungicides.

### Pest Problems Have A Regional Dimension

Weed control in cotton is complex because weed species may be annuals, biennials, or perennials, and control problems vary substantially with the environmental conditions in different regions. Early-season weed control allows the young plants to become established, and late-season weed control substantially boosts crop yield and quality. Nearly 100 percent of the Southeast and Delta regions' planted area was treated with herbicides. In contrast, 82 percent was treated with herbicides in the West.

Major insect pests affecting cotton production include the boll weevil, pink bollworm, cotton bollworm, and tobacco budworm. As a major pest, boll weevils range from the Atlantic coast to California's Imperial Valley. The pink bollworm's range begins in Texas and stretches to the Imperial Valley. The cotton bollworm and tobacco budworm are

problems in the Southeast and Delta portions of the Cotton Belt. About half of cotton acreage is in the Southern Plains—Texas and Oklahoma.

Cotton producers reported using insecticides in 1989 to treat 73 percent of the total crop acres. Insecticide treatments averaged 5.4 per acre per season, ranging from 10.8 treatments in the Southeast to 2.5 in the Southern Plains.

The boll weevil eradication program on 40 percent of the Southeast's acreage was a major reason for the high number of treatments per acre in that region. However, when the program is completed, insecticide applications likely will decrease.

Yield losses due to disease vary considerably by region, with moisture and temperature positively related to the frequency and severity of outbreaks. Fungicide-treated acreage averaged one treatment a season for the 14 states. Fungicide applications were used on 0.8 million acres (8 percent of the total planted acres), concentrated in the Southeast and Delta.

Desiccants or defoliants were used on 54 percent and growth regulators on 37 percent of planted acres. Desiccants and defoliants are used to remove or reduce the cotton plant's leaves to facilitate harvest by mechanical pickers or strippers.

### Last Year, 98 Percent of Cotton Acres Averaged More than Seven Pesticide Applications

Item	14 states	Southeast	Delta	Southern Plains	West
— Thousands —					
Acres planted	10,157	852	2,974	5,041	1,290
— Percent of acres planted —					
Any pesticide	98	100	100	95	100
Herbicides	92	98	99	89	82
Insecticides	73	98	92	57	74
Fungicides	8	15	21	1	2
Desiccants/defoliants	54	74	80	23	96
Growth regulators	37	49	65	14	52
— Treatments per acre —					
Any pesticide	7.1	14.9	11.6	3.3	6.2
Herbicides	2.1	2.9	3.3	1.4	1.4
Insecticides	5.4	10.8	7.3	2.5	4.1
Fungicides	1.0	1.0	1.0	1.0	1.7
Desiccants/defoliants	1.4	1.1	1.3	1.4	1.7
Growth regulators	1.8	1.7	2.2	1.3	1.3

and OCR go to [ThePaperlessOffice.org](http://ThePaperlessOffice.org), NC, SC; the Delta, AR, LA, MO, MS, TN; the Southern Plains, OK, TX, NM, and the West, AZ and CA.

Source: USDA's Cropping Practices Survey, 1989.



## Cotton Scouting Is Most Common In the Delta and West

Pest management	Units	14 states	Southeast	Delta	Southern Plains	West
Acres planted	1,000	10,157	852	2,974	5,041	1,290
Acres in scouting program	Percent	56	57	70	44	73
Scouting trips per acre	Number	18	17	22	12	25
Proportion of acres planted that had:						
Resistant varieties	Percent	40	74	38	29	70
Stalk destruction	Percent	74	96	85	58	98
Pheromone traps	Percent	34	78	39	9	90
Diapause control	Percent	21	64	25	10	26
Acres cultivated	Percent	97	98	97	98	92
Cultivations per acre	Number	3.7	3.3	3.5	3.7	4.2
Acres in boll weevil eradication program	Percent	6	40	0	0	17

Preliminary data.

Source: USDA's Water Quality Survey, 1989.

Cotton grown in the mostly irrigated West accounted for the highest proportion of acreage treated, 96 percent, and the Southern Plains cotton the least, 23 percent.

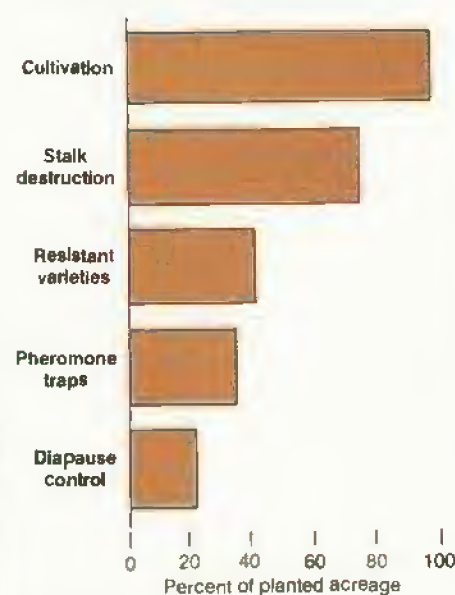
Growth regulators are used to establish more uniform plants, compress the fruiting and harvesting periods, and avoid late-season pest damage. A 14-state average of 1.8 treatments were used, ranging from 2.2 treatments in the Delta to 1.3 in the Southern Plains and West.

## Scouting Can Mean Less Chemicals

Many farmers realize that sole reliance on chemical control can indirectly push up pest control costs and depress yields. Examples include more pest resistance to insecticides, the destruction of beneficial insects, and the replacement of one major weed with another. Pest management practices are directed toward:

- reducing the pests' sources of food and shelter,
- slowing the rate of pest population growth and damage, and
- concentrating pest numbers in small areas where direct control measures

### Cultivation Is the Most Common Type of Cotton Pest Management



In 1989, 14 states.

can be applied with less harm to beneficial species.

The professional scout is under the supervision of a consulting firm or the Extension Service. Scouts visit the cotton field, report on the presence and population dynamics of various insects, and recommend specific control measures to the

farmer. Surveyed cotton farmers in the 14 states reported that 56 percent of their planted acreage was in a scouting program, ranging from 70 percent in the Delta and West to 44 percent in the Southern Plains.

Pest management practices include planting resistant varieties, stalk destruction, pheromone traps, and diapause (i.e., dormancy) control. Although not examined in the survey, early-maturing varieties of cotton plants also are used as part of some pest management programs.

Cultivation was used on 94 percent and stalk destruction on 74 percent of planted acres in 1989. These most popular practices were followed by use of resistant varieties, pheromone traps, and diapause control. About 6 percent of the planted acreage was included in a boll weevil eradication program that is jointly funded by the federal and state governments. The program includes some combination of insecticide treatments, pheromone traps, diapause control, and other practices.

Surveyed farmers reported using pest-resistant varieties on 40 percent of the total acres, ranging from 74 percent in the Southeast to 29 percent in the Southern Plains.

## Resources

Destroying cotton stalks after the cotton has been harvested reduces food, breeding, and wintering sites available to pests. Early harvest and disposal of crop residues have long been recognized as excellent measures for cutting pest populations. In 1989, stalk destruction ranged from over 95 percent of the planted acreage in the West and Southeast to 58 percent in the Southern Plains.

### *Sex, Dormancy, Aid Control*

Pheromone traps use sexual attractants to monitor insect populations. For example, scouts use pheromone traps on boll weevils to determine when the population is big enough for a cost-effective insecticide application. In 1989, pheromone traps were used on 34 percent of the total planted acres, ranging from 90 percent in the West to only 9 percent in the Southern Plains.

Diapause is a period of dormancy or inactivity. Unlike the boll weevil, which diapauses as an adult, the pink bollworm diapauses as a larva which cannot fly and is therefore easier to control. Diapause control practices are based on the pink bollworm's propensity to spend the winter in the crop residues left on the field after harvest. Practices include harvesting early, shredding stalks, and plowing the remnants under immediately.

Boll weevil diapause control refers to similar practices in addition to insecticide applications that help control the insect prior to dormancy. Farmers used diapause control on 21 percent of the total planted acres, ranging from 64 percent in the Delta to 10 percent in the Southern Plains. [Walter L. Ferguson (202) 219-0462] **AO**

## Crop Area Uncertain In 1991

**C**ropland used for crops in 1990—which includes land harvested, failed, and summer fallowed—is estimated at 342 million acres, about 1 million above last year, but nearly 4 million below the average of the last 5 years. Cropland use is uncertain for 1991, pending approval of the 1990 farm bill and a host of other factors.

Because provisions for program commodities will depend on the final version of the 1990 farm bill, participation in the commodity programs is difficult to predict for 1991. The Acreage Reduction Program (ARP) requirement for the wheat program was only recently announced to be 15 percent of base acreage in 1991, compared with 5 percent for 1990. For other program crops, announcement of program provisions will be made as soon as practical after the announcement of the 1990 farm bill.

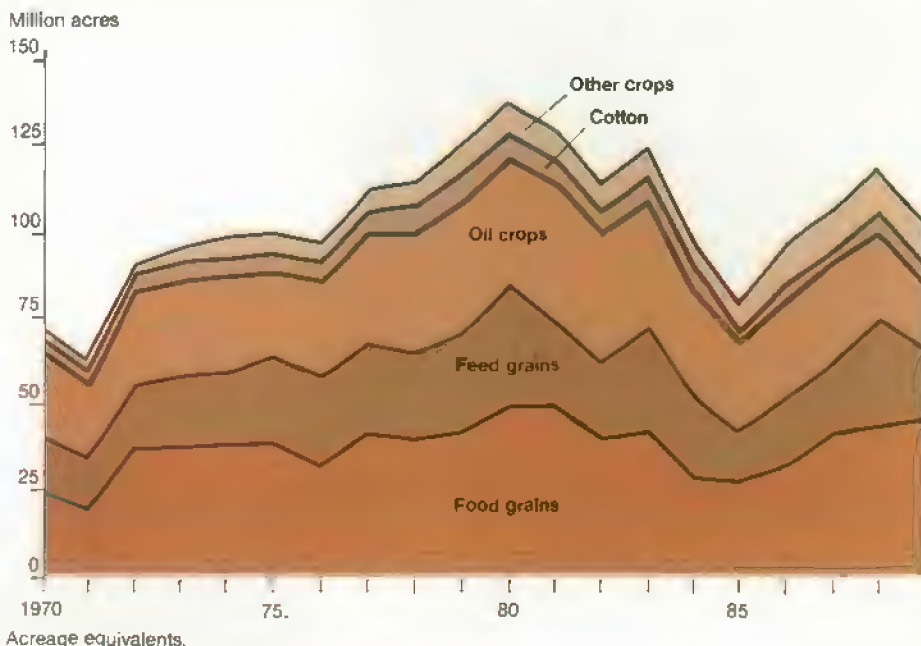
In the U.S., wheat ending stocks are projected to be up this year and prices are slipping. In spite of a near-record corn crop, ending stocks are forecast to be down compared with 1989/90. And corn and most other coarse grain prices this season probably will be about even with a year earlier. Farmers' expectations of future prices will play a large role in next year's cropland used for crops.

U.S. cropland used for crops peaked at 387 million acres in 1981, after increasing to meet expanding export markets in the 1970's. No land was idled in farm programs in 1981. Most of the reduction since then reflects idling of land under federal farm programs. Producers idled 59.9 million acres in annual programs plus the Conservation Reserve Program (CRP) in 1990. For comparison, this amount equals about a third of all arable land in the EC.

The total of idled acreage plus cropland used for crops has been relatively stable over time. It came to nearly 402 million acres in 1990, less than 1 percent below the 1985-89 average and less than 2 percent above 1972 and 1962.

Land in farms, as reported by the U.S. Census of Agriculture, has steadily declined from a high of 1,161 million

Except for Food Grains, Acreage for Exports Dipped in 1989





**Cropland Used For Crops Has Dropped 12 Percent Since 1981\***

Region	1981	Average 1985-89	1990	Change	
				1981 to 1990	1985-89 to 1990
Million acres					
CROPLAND USED					
FOR CROPS					
Northeast	13.6	12.2	11.5	-2.1	-0.7
Lake States	40.3	34.9	34.2	-6.1	-0.7
Corn Belt	87.5	79.4	80.8	-6.7	1.4
N. Plains	93.5	88.6	88.6	-4.9	0.0
Appalachian	19.4	17.1	16.9	-2.5	-0.2
Southeast	14.8	11.3	10.3	-4.5	-1.0
Delta	19.6	16.1	15.0	-4.6	-1.1
S. Plains	38.0	30.8	31.5	-6.5	0.7
Mountain	38.1	35.6	34.5	-3.6	-1.1
Pacific	22.2	19.4	18.2	-4.0	-1.2
United States	387.0	345.4	341.5	-45.5	-3.9
CROPLAND IDLED 1/					
Northeast	0	0.6	0.6	0.6	-0.0
Lake States	0	4.9	4.7	4.7	-0.2
Corn Belt	0	10.1	6.6	8.6	-1.5
N. Plains	0	16.1	16.1	16.1	-0.0
Appalachian	0	2.0	2.3	2.3	0.3
Southeast	0	2.2	3.0	3.0	0.8
Delta	0	2.8	2.7	2.7	-0.1
S. Plains	0	9.6	9.5	9.5	-0.1
Mountain	0	7.5	9.3	9.3	1.8
Pacific	0	2.9	3.1	3.1	0.2
United States 2/	0	58.7	59.9	59.9	1.2

\*Data for 1990 are preliminary. Includes the lower 48 states. 1/ Idled under federal acreage reduction programs—both annual and long term. 2/ This exceeds the base acreage of program crops idled by an average of 5.3 million nonbase acres that entered the CRP during 1985-89 and by 12.1 million that entered in 1990.

acres in 1950 to 964 million in 1987. During this period, cropland used for crops plus cropland idled in federal programs increased from 32 percent of land in farms (377 million acres) to 42 percent (407 million acres). Pasture, range, and woodland have all declined over the past several decades.

### ***Acreage About Flat In Most Regions***

Cropland used for crops this year was lower than or unchanged from 1989 in the Northeast, Corn Belt, Southeast, Delta, Mountain, and Pacific regions. The largest gain was in the Southern Plains (1.5 million acres) followed by the Northern Plains (1.0 million acres).

Both the Northern and Southern Plains were estimated to have had less crop failure and less land summer fallowed in 1990 than in 1989. Soil moisture has improved there and the wheat ARP was lower. The crop increases in both regions were primarily corn and wheat. The Lake States and Appalachian regions experienced small increases in cropland used for crops (0.1 million acres each).

Cropland idled by annual federal commodity programs continued to drop—from 30.9 million acres in 1989 to 26.0 million in 1990. Annual programs took fewer acres out of production this year because of reduced ARP requirements and a modified contract option for wheat and reduced ARP requirements for cotton and rice. Also, there was no Paid Land Diversion for any of the crops in

1990. However, an additional 4.1 million acres were bid into the 10-year CRP for 1990—2.8 million of those were base acres of program crops.

The 59.9-million-acre total idled under all federal programs this year was the smallest since 1986. So far, no additional land has been bid into the CRP for 1991.

### ***Acreage Needed for Exports Falls***

Exports from crop year 1989/90 absorbed the production from 102 million acres, down nearly 16 percent from 1988's 118 million acres. The drop was largely because of higher crop yields in 1989 than in drought-stressed 1988, not a reduction in export volume.

Export volume was actually up slightly from 1988/89. The total acreage-equivalent of exports was still substantially below the 1980 high of 137 million acres.

U.S. agricultural exports in fiscal 1990 likely were in excess of 148 million tons, up more than 1 percent from 1988 and up 15 percent from 1986. Grains accounted for most of the increase. Exports probably equaled the production from 32 percent of all acres harvested in 1989/90, down from 40 percent a year earlier.

[Arthur Daugherty (202) 219-0422] **AO**

## Food and Marketing



## New Corn & Poultry Price Dynamics

In the 1950's and 1960's, a rise in corn prices had an extremely weak effect on poultry prices. But now, a 1-month rise in corn prices is associated with 5 months of increasing poultry prices. Both supply and demand factors likely account for the change.

To show the change in price relationships, two nonstructural, time-series models of monthly corn prices, farm poultry prices, and retail poultry prices were developed. One model covered January 1956 to December 1968 and the other covered January 1973 to September 1988 (see box). Each model was shocked with a 1-time 10-percent rise in corn price, representing an increase in feed costs, to determine how farm and retail poultry prices would react.

The two models show that the poultry price response to a corn price increase has markedly changed: the recent model's response reverses the patterns generated by the early model. However, the models used here do not examine the reasons why the prices move as they do; they simply pin down the direction, dura-

tion, and strength of the price relationships.

The accompanying figures map the responses of farm and retail poultry prices to a 1-month, 10-percent increase in corn prices from the two models. The figures suggest that farm poultry price responses have shifted from statistically insignificant changes to 5 months of mostly significant increases. For retail

prices, the figures indicate that the early model's statistically insignificant responses have changed into 5 months of significant increases.

Although the models cannot establish why the pattern of dynamic poultry price responses has changed, the nature of the changes are consistent with what would be observed if one or more of several

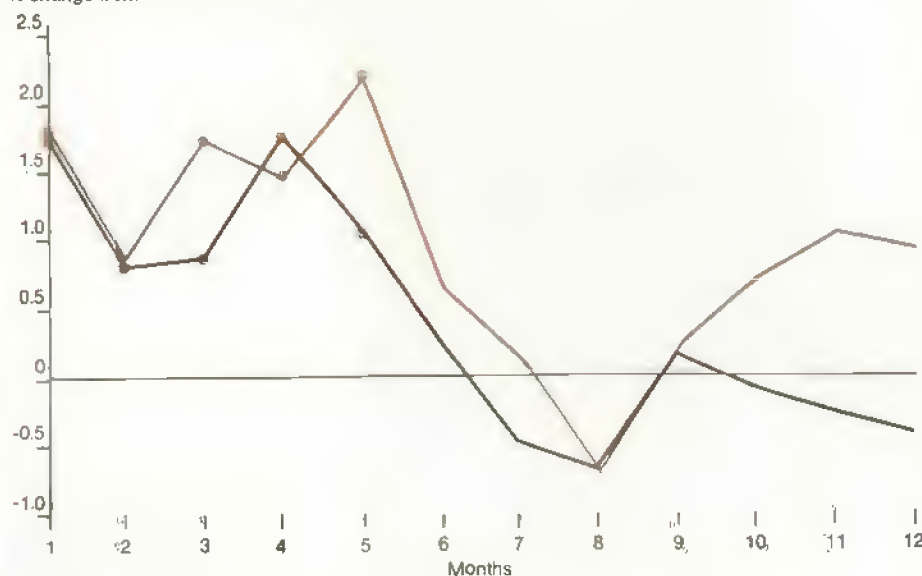
Farm and Retail Poultry Prices Once Were Little Affected By a Rise in Corn Prices<sup>1</sup>...

% change from nonshock scenario.



... But Now Both Increase

% change from nonshock scenario



\* Response to a 10-percent spike in the U.S. corn price.  
 ● = Response that is statistically different from zero at the 5-percent significance level.

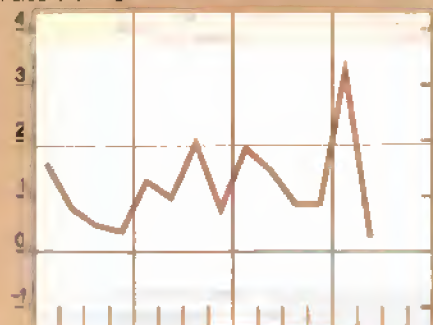


## Marketing Indicators

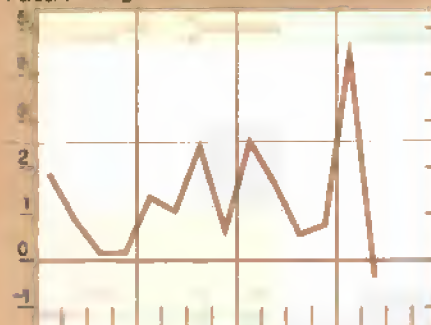
## Food and Marketing

CPI: Total food<sup>o</sup>

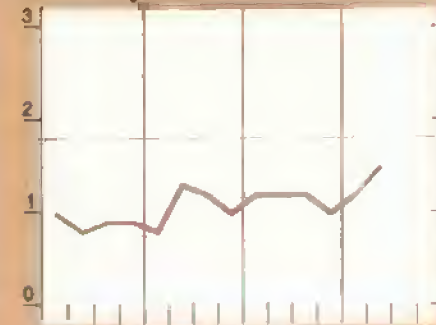
Percent change

CPI: Food at home<sup>o</sup>

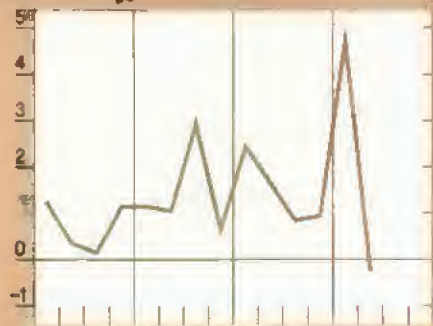
Percent change

CPI: Food away from home<sup>o</sup>

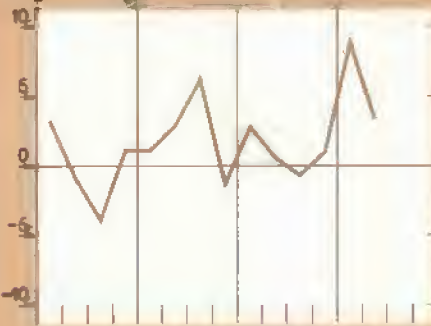
Percent change

Retail cost of food<sup>1</sup>

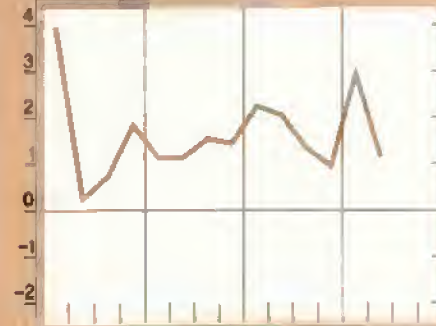
Percent change

Farm value of food<sup>1</sup>

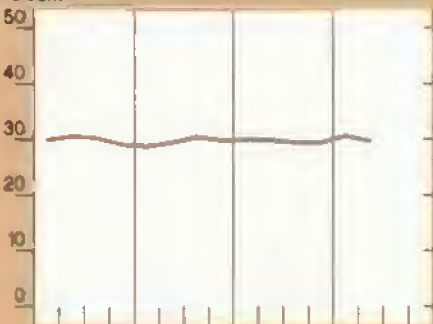
Percent change

Farm-retail spread<sup>1</sup>

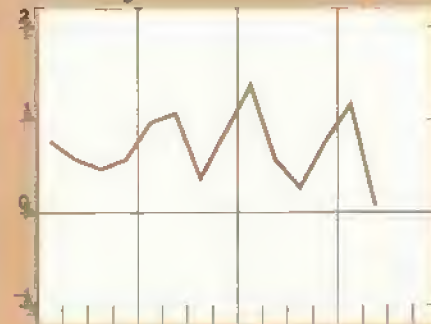
Percent change

Farm value/retail cost<sup>1</sup>

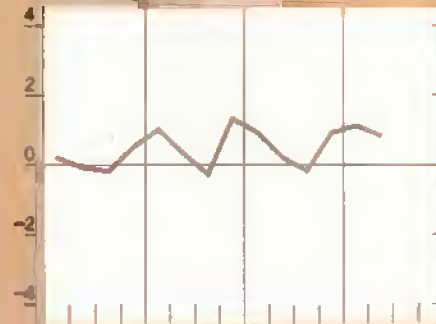
Percent

Food marketing cost index<sup>2</sup>

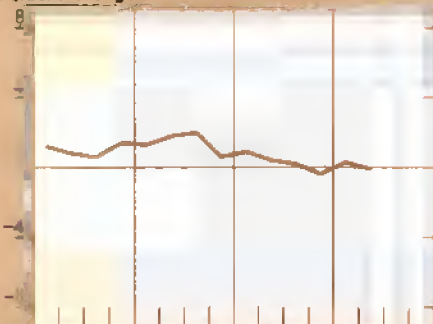
Percent change

Index of hourly earnings<sup>3,4</sup>

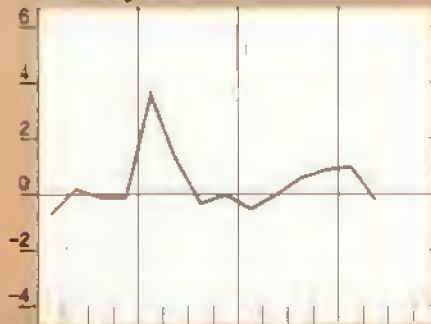
Percent change

Index of packaging prices<sup>4</sup>

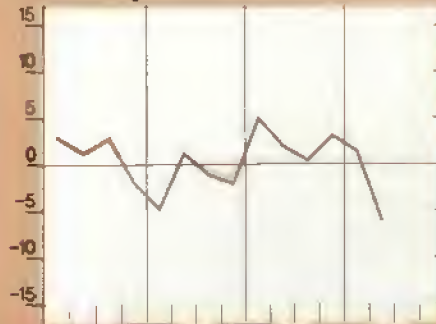
Percent change

Index of rail freight rates<sup>4</sup>

Percent change

Index of energy rates<sup>4</sup>

Percent change

<sup>o</sup>CPI unadjusted. <sup>1</sup>Index based on market baskets of farm foods. <sup>2</sup>Index of changes in labor, packaging, transportation, energy, and other marketing costs.<sup>3</sup>In food retailing, wholesaling, and processing. <sup>4</sup>Component of food marketing cost index.

All series expressed as percentage change from preceding quarter, except for "Farm value/retail cost" chart.

## Food and Marketing

possible changes had occurred. These changes could have arisen from demand-side events, supply-side events, or some combination.

On the demand side, several changes have sharply raised per capita poultry consumption over the last 30 years. First, health concerns may have prompted consumers to shift from beef and pork to poultry. Second, there is a "new" demand for convenience-oriented prepackaged and further processed poultry products.

### About the Models

Monthly data on corn prices and farm and retail poultry prices were obtained from the U.S. Bureau of Labor Statistics. Corn prices were represented by the producer price index (PPI) within the farm products index group for no. 2 corn at Chicago. The PPI in the farm products index group for live poultry represents the farm poultry price. The consumer price index for all urban consumers of poultry was taken as the retail poultry price.

A vector autoregression (or VAR) model of these monthly prices was estimated for January 1956 through December 1968 and for January 1973 through September 1988.

Each model summarizes how corn and poultry prices have dynamically interacted and moved through time together during the given period. Each model was shocked by a one-time 10-percent rise in corn price to reflect how poultry prices in each period responded to a rise in corn-based feed prices.

The VAR's are also linear, meaning that a drop in corn prices would elicit 5 months of declining poultry prices from the later model and insignificant poultry price responses from the early model. The models account for seasonal and time-dependent influences.

Third, poultry prices have dropped sharply relative to red meat prices over the past few decades. Finally, restaurants, especially fast-food outlets, have intensified their marketing of poultry products.

For example, today's more health-conscious consumers may consider red meats to be less of a substitute for poultry. Back in the 1950's and 1960's, perhaps, poultry was more of a premium meat and consumers switched to red meats at the first hint of a poultry price increase. In contrast, the recent model's poultry price increases in response to corn price hikes probably indicate that consumers will more readily continue to eat poultry despite higher prices.

### Industry Is More Concentrated

On the supply side, the poultry industry has undergone radical changes during the past three decades. Since the early period, the industry has concentrated into fewer, larger, and more vertically integrated firms that perform a wider array of tasks. These tasks involve running poultry operations, contracting for the services of small independent growers, processing poultry into more convenient pre-packaged and processed products, and marketing the final products.

So, the fewer but larger firms may now have more market power, especially with branded and specialty products, enabling them to more quickly and easily pass on corn-based feed cost increases to the consumer. The results may also reflect that corn-based ration blends probably are more critical in determining poultry prices now.

The statistical results are consistent with such supply-side changes. However, the explanation for the dynamic pattern of reversals likely is a combination of demand- and supply-oriented events. [Ronald A. Babula and Gerald E. Schluter (202) 219-0785, and David A. Bessler (409) 845-3096] **AO**

## Agricultural Policy



### Farm Bill Update

A 5-year farm bill was reported out of the Senate/House conference committee early on October 16 that would make major changes in commodity, environmental, and consumer policies. If enacted, the bill will replace the Food Security Act of 1985. The bill also contains provisions on trade, research, and all federally funded nutrition programs, including food stamps and the Commodity Supplemental Food Program.

This 1990 farm bill modifies both the original Senate and House versions in order to meet the budget resolution by cutting \$13.6 billion over 5 years. This is accomplished, in part, by implementing a triple base program and assessing fees on dairy, sugar, peanuts, honey, and tobacco. The 5-year bill's final cost is estimated to be \$44 billion for price and income support programs, compared with an actual total cost of about \$80 billion for the 1985 farm bill.

### Commodity Programs: More Flexibility

The new bill would maintain target prices for program crops at the current



1990 levels for 1991-95 crops (see table 22 in the back of this issue). In 1994 and 1995, deficiency payments for wheat, feed grains, and rice would be based on a 12-month average of market prices, rather than the present 5-month average. This would hold down federal outlays. Upland cotton payments are already based on the 12-month average.

Nonrecourse loan rates for wheat and feed grains would be set at 85 percent of the previous 5-year average of market prices, excluding the highest and lowest years. The 1985 farm bill gave the Secretary of Agriculture the authority to set the rate at 75-85 percent of the 5-year moving average.

Under the new bill, annual noncumulative loan rate reductions of 5 or 10 percent may be made based on an ending stocks-to-use formula. The Secretary would have the discretion to reduce loan rates by an additional 10 percent under certain conditions.

Nonrecourse loan formulas for cotton and rice would not change from the 1985 act. Cotton and rice loan rates cannot be reduced by more than 5 percent from the preceding year. An absolute minimum of \$0.50 per pound for cotton and \$6.50 per hundredweight for rice would continue. Marketing loans for cotton and rice also would continue as before.

A new oilseed marketing loan for 1991-95 would be set at \$5.02 per bushel for soybeans, with a \$0.089 per pound rate for sunflower seeds, rapeseed, canola, flax, mustard seed, and safflower. The Secretary may include other oilseeds if deemed necessary. A 2-percent loan origination fee will be charged for budget reduction purposes. So, only \$4.92 would be realized from a \$5.02 loan. And producers would be required to pay interest on the nominal \$5.02 loan rate.

The bill establishes maximum acreage reduction program (ARP) requirements of 20 percent for wheat and feed grains except oats, 25 percent for cotton, and 35 percent for rice. The levels would be based on specified stocks-to-use ratios with the option of having a zero ARP requirement. ARP's could be set separately for individual feed grains. The

ARP for oats would be set at zero for the 1991-95 crops.

The new triple base program would divide crop bases into three categories. Each program crop base would be divided into the ARP, the acreage on which a program crop is planted and for which deficiency payments may be paid, and a new "triple base" (i.e., flexible) acreage equal to 15 percent of the crop base.

On the flexible acreage, producers would be able to plant any program crop, oilseed, or any other crop except fruits and vegetables. Crops planted on these acres would not be eligible for deficiency payments, but would be eligible for their usual nonrecourse and marketing loans. In addition, base history would be protected on the flexed acres.

So, a farmer with a 100-acre crop base facing a 10-percent ARP would idle 10 acres, plant 75 acres on which he would be eligible for deficiency payments, and plant 15 acres to any program crop, oilseed, or other allowed nonprogram crop that would be ineligible for deficiency payments. The Secretary would have the option of limiting the types of crops planted on the flexed acres.

Program crop producers also would have the option to flex an additional 10 percent of their crop base and still receive base protection. The Secretary also may provide more flexibility to producers having trouble meeting conservation compliance requirements. Cross compliance provisions would be eliminated.

### *Assessments To Cut Deficit*

The new bill would set a dairy price support floor of \$10.10 per hundredweight for milk containing 3.67 percent milkfat for 1991-95. A \$0.05 per hundredweight assessment would be imposed for 1991 and \$0.1125 for 1992-1995 to cut the federal budget deficit. These fees would be refundable to producers who did not boost output from the previous year.

The Secretary must provide Congress with program options to limit further

growth in government purchases of dairy products. Mandatory cattle slaughter or price support cuts are specifically prohibited as possible options.

If Congress does not enact subsequent dairy legislation by Jan. 1, 1992, and if purchases in 1992 and each subsequent year are expected to exceed 7 billion pounds (milk equivalent, total solids basis), USDA would be allowed to impose an assessment to cover costs incurred for the purchase of dairy products in excess of this amount.

The legislation would reauthorize price support programs for peanuts, honey, and wool and mohair with minor changes. Marketing assessments of 1 percent of loan rates would be established for peanuts, honey, and tobacco marketings. In addition, deductions of 1 percent would be made from wool and mohair incentive payments.

The bill also would maintain the current 18-cent minimum loan rate for raw cane sugar and a comparable rate for sugarcanebeets with an assessment of 1 percent of the support rates.

Payment limits to individuals would be reduced further from \$500,000 to \$250,000 due in part to new limit on marketing loan gains, loan deficiency payments, and Findley payments, as well as other changes. Farmers could receive another \$125,000 maximum from interest in two other farming entities.

Wool and mohair payments would be limited for the first time to \$200,000 in 1991 and further reduced to \$125,000 by 1994. Payment limitations for honey would be lowered from \$200,000 in 1991 to \$125,000 by 1994.

### *Conservation Reserve More Targeted*

According to the conference bill, farmers violating their conservation compliance plans, planting without a plan, or planting on wetlands, would face an expanded list of program benefits that could be lost under swampbuster and sodbuster provisions.

## Agricultural Policy

However, graduated sanctions (from \$500 to \$10,000) could be levied for unintentional violations. Producers may not lose program benefits when they convert a wetland if the effect on the wetland's value is minimal or if it is a farmed wetland and they restore previously converted wetland. Similar provisions would apply for sodbuster violations.

The new Agricultural Resources Conservation (ARC) program would serve as an umbrella for:

- an expanded Conservation Reserve Program of not less than 40 million acres nor more than 45 million acres by 1995 with expanded but more targeted eligibility criteria;
- a voluntary program to enroll up to 1 million acres of wetlands in paid easements of 30 years or longer; and
- a water quality incentive program that shares costs with producers to promote protection of water quality and improvement of wildlife habitats.

An Office of Environmental Quality would be established to help evaluate the effects of agricultural programs on the

environment and to coordinate and monitor efforts to improve environmental quality. The bill would require recordkeeping on the use of restricted pesticides. The first national organic food standards would be established, specifying production processes, materials, handling, and testing of labeled products.

Research and extension activities promoting environmentally sound agricultural production would be expanded with \$40 million to be authorized annually for low-input research activities, \$20 million for integrated resource management research, and \$20 million for training and information transfer to farmers.

### Other Programs Modified

P.L. 480's operations would be changed to streamline delivery of food aid to recipient countries. USDA would be given primary authority over the concessional sales program, while the Agency for International Development would be given responsibility over the food aid grant programs.

The Export Enhancement Program would be reauthorized and funded at not less than \$500 million annually. The Market Promotion Program (MPP),

formerly Targeted Export Assistance, stands to be expanded to facilitate general export promotion activities on a cost-sharing basis. MPP would give priority to markets where unfair trade practices have been cited and likely will be funded at a minimum of \$200 million annually.

The bill would consolidate USDA's rural development activities into a new Rural Development Administration. A pilot program using partnership-type revolving loans to fund rural economic development projects would be authorized. A first-ever forestry title is in the bill to protect and improve forest lands, to encourage urban forestry activities, and to create the America The Beautiful Foundation to promote tree planting.

The reauthorized Food Stamp Program would have simpler rules and has the goal of serving more homeless families. Additional penalties for fraud and misuse of food coupons would be imposed. The Emergency Food Assistance Program (TEFAP) would be preserved with funding authorized at \$220 million per year, up from \$120 million. The Commodity Supplemental Food Program (CSFP) also would be reauthorized. [Lori Lynch and Susan Pollack (202) 219-0696] **AO**

## Coming This Spring!... **World Agriculture**

*World Agriculture Situation and Outlook Report* will be published in a new format beginning this spring. **World Agriculture** will continue to report on significant issues and trends in global agriculture and trade and their implications for U.S. agriculture.

Watch for subscription information in the December 1990 issue of the *World Agriculture Situation and Outlook Report*, which will be the last issue in the old format.





# U.S. Agriculture: A Flow-Through System

**A** steak served in a New York restaurant could be from a Texas steer fattened on Midwestern corn and soybeans. The nutrients taken from the soil to grow the corn and soybeans may have come from phosphate mined in the southeastern U.S., potash imported from Canada, and anhydrous ammonia manufactured in the Soviet Union.

The flow of nutrients from these natural deposits to a nutritious meal in New York relies on international trade for reasons of economy and resource availability.

U.S. agriculture is not a closed system. The nutrients in the steak are not returned to the fields producing the feedstuffs—there is no recycling from New York to the Midwest. Further, the nutrients in the manure in Texas are not recycled back to the fields in the Midwest.

This cash farming of corn and soybeans, moreover, does not deplete the fertility of Midwestern soils, because farmers replace the lost nutrients with the nutrients in fertilizers.

U.S. farms are not closed systems for nutrients, and never have been. Before modern fertilizers were developed, U.S. soils were losing nutrients, which reduced yields and raised per-unit production costs. Early attempts to reverse the depletion included the use of imported bird guano and other fertilizer materials such as superphosphate made from bones and sulfuric acid.

Today, the depletion has been reversed using nutrients from potash and phosphate, the nitrogen in the air, and the hydrogen and energy in natural gas to form the modern fertilizers for agriculture. But more and more fertilizer products are being imported. And with the U.S. likely to boost agricultural exports in coming decades, dependence on imported fertilizers probably will increase.

## Commercial Fertilizers Reverse Mining of Soils

Before commercial fertilizers were widely available, farmers could not economically replace the soil nutrients passed on in crops and livestock sold to the cities. Recycling the bulky, organic wastes of the cities back to the farm required too much energy for transportation.

Despite on-farm practices like recycling manure and growing legumes, farmers gradually depleted the fertility of their soils and lowered the nutrient quality of their crops. For example, the 1938 Yearbook of Agriculture reported a decline in the nitrogen content of soils with common farming practices.



The reported nitrogen loss in the Midwest was most rapid in the first 20 years of farming virgin land, averaging 25 percent of the original quantity. This was followed by another 10-percent loss during the second 20 years, and a 7-percent loss during the third 20 years. The decline in nitrogen varied over time with the amount of manuring, other fertilization, and crop rotations.

To some extent, the outflow of soil nutrients from diversified crop-livestock farms is slowed by returning livestock wastes to the soils growing the feedstuffs. However, such recycling has declined because livestock are now mostly raised in confinement units separate from where their feedstuffs are grown.

The expense of returning manure to the land of the cash-grain farmer is prohibitive. Dairy manure, for example, may contain 10 pounds of nitrogen per ton of manure, only 0.5 percent. For comparison, anhydrous ammonia is 82-percent nitrogen.

## A Few Countries Dominate Fertilizer Trade

Countries do not have equal endowments of the natural resources used by the fertilizer industry. Almost 75 percent of global phosphate output is mined in only three countries: the U.S., the USSR, and Morocco. U.S. output is about 30 percent of the total and the largest in the world.

Potash mining is even more concentrated. The USSR is the largest producer, accounting for about one-third of world output. Canada and Europe each have about a quarter. The top three producers control 85 percent of world output. U.S. potash mines produce less than 5 percent of the total.

## Special Articles

Anhydrous ammonia production, based mainly on availability of natural gas, is more widely distributed than the ores for phosphate and potash. The USSR and China are the two biggest producers, with 22 and 15 percent of the world's anhydrous ammonia production capacity. The U.S. ranks third, with about 10 percent of global capacity.

This uneven distribution leads to international trade in crop nutrients. The U.S. is heavily involved in this trade, both as an importer and exporter.

### *U.S. Is Becoming an Importer*

The U.S. became a net importer of potash in the 1960's and of nitrogen in the 1980's. And the U.S. likely will import phosphate sometime after 2000. Now, the Canadians are the largest foreign buyer of U.S. phosphate, while supplying the U.S. with large quantities of anhydrous ammonia and potash.

**Potash**—U.S. production began in the 1930's when mines were opened in New Mexico. Mining began in Canada in 1958. By 1963, Canadian output had started to replace New Mexican potash in the upper Midwest, because lower transportation costs favored the Saskatchewan product.

Growth in domestic consumption beyond local capacity, plus large reserves of high-grade Canadian potash ore, led to rapid expansion of Canadian production and to U.S. dependence on potash imports. The U.S. now imports 80-85 percent of its potash because the Canadian product is less expensive.

The U.S. also imports significant quantities of potash from Germany, Israel, and the USSR. However, it also exports small quantities, principally to South America, because of transportation cost advantages. These exports are expected to decline as high-grade U.S. potash deposits are exhausted.

**Nitrogen**—Through the 1950's and 1960's, U.S. manufacturers used low-cost, domestic natural gas to produce anhydrous ammonia, the basic material for nitrogen fertilizers. Enough was produced to allow for some exports. Following the deregulation in the 1970's, however, U.S. natural gas prices rose above prices in the USSR and the Middle East. The higher prices caused inefficient U.S. fertilizer plants to close, eliminating the surplus for export. At the high point in the 1960's, U.S. output exceeded domestic consumption by 10 percent.

The U.S. now imports about 10 percent of its nitrogen fertilizer. This is net of the anhydrous ammonia imported by the U.S. fertilizer industry to combine with phosphate for export as ammo-

The U.S. Is the World's Largest Phosphate Producer, But a Net Importer of Potash and Anhydrous Ammonia



Production shares for each resource may not add to 100 due to omission of minor producers.



## Middle East Crisis Likely To Miss Fertilizer Supplies

There is a general concern in farm circles that the current Middle East crisis will greatly affect farm costs by jacking up fertilizer prices. The crisis is affecting the world fertilizer industry by pushing up energy prices, but not really cutting fertilizer supplies. All complex fertilizers are based on nitrogen, derived mainly from natural gas, so energy prices will have an impact on costs.

Middle Eastern exports of fertilizer products have increased over the past two decades. However, the region remains, and is likely to remain, a relatively minor supplier.

The Middle East's share of global natural gas production of some 68 trillion cubic feet in 1988 was only 3.3 percent, very little of which was exported. Iraq and Kuwait, however, accounted for only 0.5 percent of world gas production, but about 2.4 percent of global exports.

Neither Iraq nor Kuwait have rock phosphate deposits, but Jordan supplies 12.5 percent of world output and Israel accounts for another 5 percent. Neither Iraq nor Kuwait produce potash, but Israel supplied 6.5 percent and Jordan 3.8 percent of the world's potash exports in 1988.

Nitrogen fertilizers, such as ammonium sulphates, ammonium nitrates, ammonium phosphates, urea, sodium nitrates, and calcium cyanamides, are likely to be more directly affected by the Middle East crisis than non-nitrogen fertilizer compounds. The nitrogenous fertilizer industry is relatively new to the region, which accounted for 3.2 percent of output and 7.6 percent of exports in 1988. Iraq and Kuwait, however, produced only 0.6 percent of the world's nitrogenous fertilizers, although they garnered 2 percent of global exports.

Thus, unless the conflict spreads beyond the borders of Iraq and Kuwait, the output effect on fertilizer markets is likely to remain minimal.

The price effect, however, will certainly be more important if the conflict is prolonged. Natural gas prices, and coal prices as well, generally have moved in tandem with crude oil prices and, by mid-October, the world average price of crude oil had already jumped over 150 percent since early August. Additional price increases are likely, even though the Iraqi invasion of Kuwait caused world oil supplies to drop only 2.5 percent, and only for 2 months.

As a result, the conflict in the Middle East will exert upward pressures on fertilizer prices as long as it lasts, even if the absolute amount of fertilizer withdrawn from the market is small. [Francis Urban (202) 219-0717]

Iraq and Kuwait Are Minor Players in Fertilizer Markets

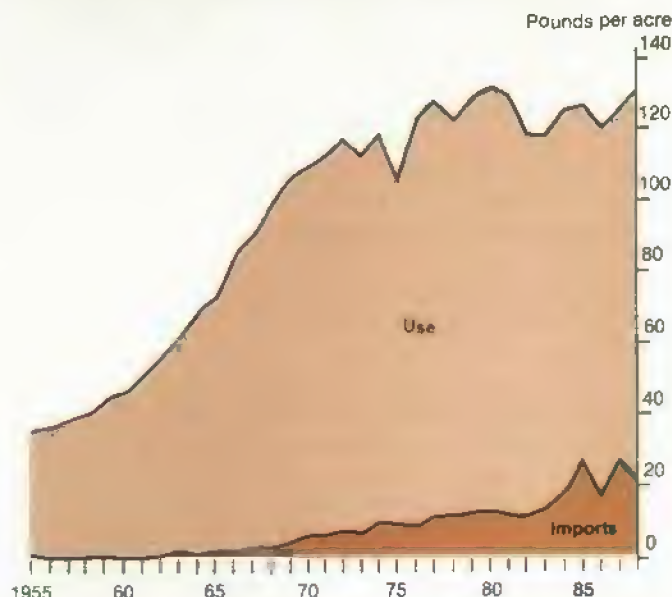
Country/region	Production		Exports		Imports	
	1974	1988	1974	1988	1974	1988
<i>Million metric tons</i>						
U.S.	9.8	11.8	1.1	2.7	1.0	3.6
Canada	0.8	2.8	0.4	2.0	—	0.2
Latin America	0.3	3.2	0.1	0.6	1.1	1.5
Europe	13.7	18.3	4.4	7.3	1.9	5.6
USSR	7.2	15.5	0.4	2.5	—	—
North Africa	0.1	1.2	—	0.4	0.4	0.2
Sub-Saharan Africa	0.4	0.7	—	0.1	0.2	0.5
Middle East	0.7	2.7	0.4	1.4	0.6	1.1
Iraq	—	0.1	—	—	—	0.1
Kuwait	0.3	0.4	0.3	0.4	—	—
China	2.8	13.8	—	—	1.2	3.2
Other Asia	4.5	12.2	1.7	1.5	1.7	2.3
World	40.6	82.2	8.5	18.5	8.1	18.2

— Less than .5 million metric tons.

Sources: FAO Fertilizer Yearbooks, 1977 and 1988.

## Special Articles

## U.S. Fertilizer Use Has Levelled Off, But Imports Are Growing



Area includes principal crops harvested plus land in fruit, tree nuts, and farm gardens.

nium phosphate. U.S. nitrogen imports are principally from Canada, Mexico, and the USSR.

**Phosphate**—The U.S. has been a major phosphate exporter for many years, exporting more than 50 percent of its mined phosphate rock, principally to Canada. Large shipments also go to Europe and the Far East.

Now, despite sizable ore deposits, new U.S. phosphate mines are not being opened. Lower grades of ore and increasing environmental restrictions on mining waste disposal have boosted costs relative to those of competitors, especially in North Africa. The U.S. Bureau of Mines forecasts that U.S. production will barely meet domestic needs by 2000. If domestic phosphate rock production costs continue to rise after 2000, making investment in new phosphate mines uneconomic, imports will be needed.

U.S. fertilizer use—both in total and on a per acre basis—is no longer rising as it did for 30 years up to the early 1970's. An increasing proportion, however, is imported. The dependency on fertilizer imports is driven by resource availability and relative cost, and likely will increase. [Gary Vocke (202)

219-0718] AO

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## Speculative Bubbles In Farmland Prices?

During the 1970's, farmland prices increased rapidly—exceeding 20 percent in some years. Many market observers said prices reflected a speculative mania rather than expected farm income. Speculative manias, often called “bubbles,” occur when investors buy an asset intending only to sell it later at a higher price, rather than using it to generate income over a number of years.

If the farmland market is subject to speculative bubbles, existing federal farm policies could not sufficiently stabilize farm income or protect farm wealth. Any support program influencing current income would be almost irrelevant to farmland investors during the speculative upswing. And a program probably would not offer enough income support to investors who bought farmland at the price peak to repay their debt after the bubble inevitably burst.

While there is some circumstantial evidence of a speculative bubble in the 1970's, the long-run stable relation between farmland prices and returns (as measured by cash rental rates) leads to the conclusion that bubbles have most likely not occurred in farmland markets. Rather, expectations about future farm incomes and other economic factors have determined, and continue to determine, farmland prices.

### Land Value Gains Were Sharply Higher in the 1970's\*

	Corn Belt	Lake States	Northern Plains
	Percent		
1950-70	2.85	2.76	2.52
1970-80	7.78	7.53	6.47
Difference	4.93	4.77	3.95

\*Real average annual growth in farmland prices.

### 1970's Gains Were Wiped Out in the 1980's

U.S. nominal per acre values of farmland (including buildings) increased an average 5.6 percent a year during 1950-70. During the 1970's, farmland prices appreciated more rapidly, rising an average 14.1 percent a year.

From their nominal peak in 1982, per acre values fell almost a third by 1987. When adjusted for inflation, the value of farmland declined 57 percent from the 1980 peak. Values in 1987 were about the same as in 1972.

Some regional price cycles were much more extreme. Swings in land values were the greatest in the Corn Belt, although values in other central U.S. states displayed similar patterns.

In Iowa, for example, average per acre values more than quadrupled between 1970 and 1980. Investors who bought farmland there at the 1981 peak experienced a 60-percent capital loss over the following 6 years, unadjusted for inflation. The inflation-adjusted loss was 69 percent.

In the Corn Belt, Lake States, and Northern Plains, the land market bottomed out at mid-1960's values. All the gains of the 1970's were gone.

Economists have put forward and statistically tested many explanations for the rise and fall of farmland asset values. No consensus has emerged. The explanations most frequently offered are:

- big changes in expectations of future farm incomes,
- loose credit policies,
- inflation and tax law interactions,
- inflation and changes in real returns to alternative investments, and
- a speculative bubble; everyone believed prices would continue to increase.

### What Is a Bubble?

The press and some practitioners often attributed the 1970's gains to the presence of a speculative bubble. The price changes back then were claimed not to have been simply the

## Special Articles

### Proportion of Farmland Rented Has Been Relatively Stable

Year	Land in farms	Land rented by operators	Land leased
	<i>Million acres</i>		<i>Percent</i>
1925	924.3	361.2	39.0
1935	1,054.5	471.1	44.6
1945	1,141.6	430.5	37.7
1954	1,158.2	404.9	34.9
1964	1,110.2	393.0	35.4
1969	1,063.3	379.4	35.7
1972	1,017.0	380.7	37.4
1978	1,029.7	406.3	39.4
1982	986.2	383.5	38.9
1987	964.5	402.3	41.7

interaction of inflation and taxes or of inflation and alternative uses. Changing credit policies and the actions of monetary authorities would be largely irrelevant to changes in farmland prices, if some of these assessments were correct.

Do market fundamentals, such as expectations of future returns from the most productive land use (properly discounted to reflect the time value of money) determine farmland prices? A price bubble is apparent when asset prices move over an extended period without a near-parallel movement in returns.

When market fundamentals determine asset prices, any of the forces that determine the present value of expected earnings from asset ownership can explain price changes. These include anticipated changes in demand for the commodity the asset produces, discount (i.e., interest) rates, or the costs of producing the commodity. For example, the price of Iowa farmland depends on expected corn and soybean prices, mortgage rates, pesticide and fertilizer prices, wage rates, and soil fertility.

There are government programs designed to influence each of these. Agricultural commodity price and income support programs, acreage reduction programs, regulation of production inputs (pesticides and fertilizers), loan guarantees and subsidies, and commodity export programs are all able to influence earnings from farm production and land ownership.

When speculative bubbles drive asset prices, any connection between price changes and market fundamentals, including government programs, will be relatively small. Price changes resulting from a speculative mania would quickly swamp changes attributable to market fundamentals.

Many economists have written about self-fulfilling speculative price bubbles. Often cited, but still contentious, examples include the Dutch Tulip Bubble in the 17th century, the South Sea Bubble in the early 1700's (the British government allowed the South Sea Company to expand the number of its shares in exchange for acquiring government debt), the Mississippi Bub-

ble also in the early 1700's (John Law's attempted takeover of many French government functions), and the German Bubble of the 1920's (hyperinflation).

When market observers claim that some specific events prove the existence of bubbles, they are saying that self-fulfilling rumors about potential asset price movements result in actual price movements. Keynes described a price bubble as a situation in which speculators try to anticipate "what average opinion expects average opinion to be." And others have written: "In such conditions, the arbitrary, self-fulfilling expectations of price changes may drive actual price changes independently of market fundamentals."

### How To Find a Bubble

To examine whether speculative price bubbles have occurred in the farmland market, three regions were picked: the Lake States (Michigan, Minnesota, and Wisconsin), the Corn Belt (Illinois, Indiana, Iowa, Missouri, and Ohio), and the Northern Plains (Kansas, Nebraska, North Dakota, and South Dakota).

These are major agricultural regions and farmland prices there posted large swings in the 1970's and 1980's. Also, urban forces influence farmland prices less in these regions than in others. So, values are more closely related to farm activities than elsewhere. Finally, leasing is common in these regions, and rental rates are a good indicator of returns to land. Because rental rates are set in advance of planting, they are an indicator of expected returns. Farm income, for example, is the actual, not expected, return to the whole farming operation.

Cash rental rates are not a perfect measure of land earnings, but some analysts have concluded that rental rates are more accurate than farm income in predicting farmland price changes. And several studies have shown that rental payments are critical determinants of farmland prices.

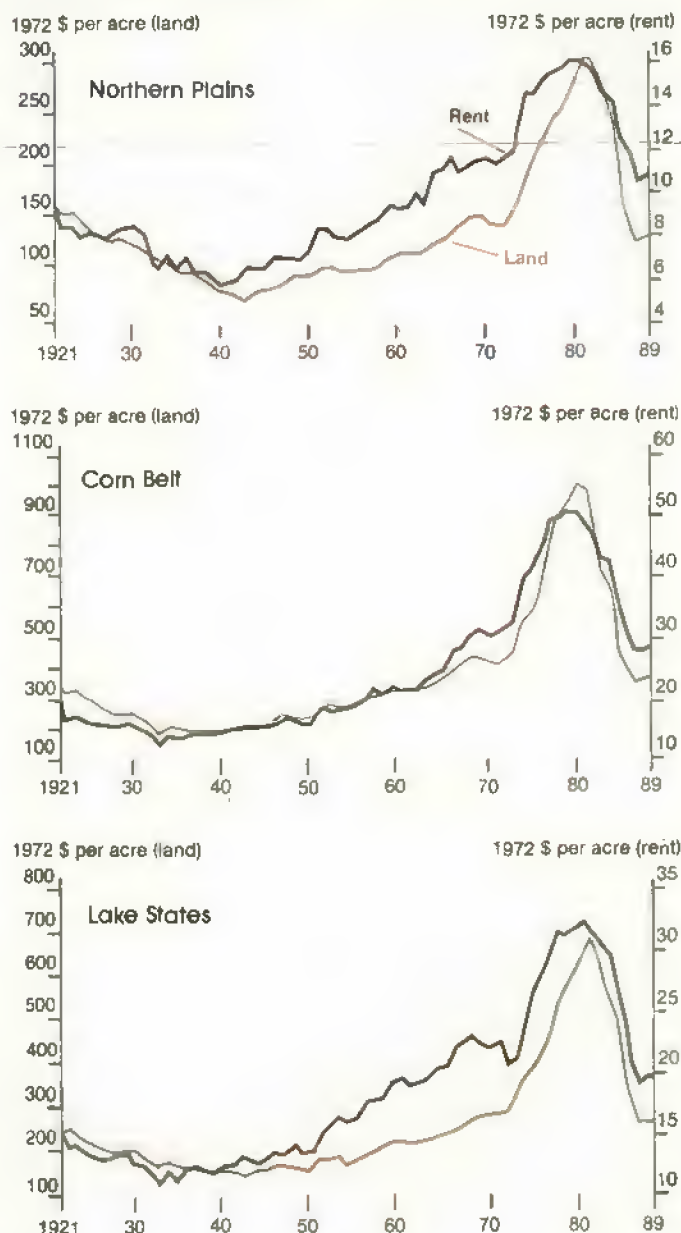
Others have argued that farm income is an inappropriate indicator of the return to land. Returns to land are determined after the returns to labor and capital. Income must be allocated among several factors of production, including land.

A market displaying a bubble differs from other markets because a bubble causes prices and returns to diverge. In an efficient asset market, today's price will be the sum of tomorrow's anticipated price and anticipated earnings, discounted back to today. As long as there are no bubbles, today's asset price should be the present value of all expected returns that might accrue over time. The presence of a bubble implies there is an additional element determining price.

Looking only at the pattern of farmland price changes, some market observers concluded that a price bubble occurred in the 1970's. If a speculative bubble existed, theory suggests it should have grown on average at the rate at which farmland investors discounted future returns from land ownership.



### Land and Rental Values Have Moved Together in Major Farming Regions



Real growth rates in the 1970's were 4-5 percent greater than in 1950-1970. Because many studies of the farmland market have concluded that capitalization rates range from 4 to 5 percent, this is about as fast as a bubble would have grown. This is a little bit of evidence that a speculative bubble existed.

### Rental Data Do Not Show a Bubble

The return estimates examined here are gross cash rental rates for whole farms. This measure has several points in its favor: The rental market is extensive—nearly 41 percent of all U.S.

farmland operated in 1989 was rented, according to USDA's Farm Costs and Returns Survey.

Moreover, rental market activity has not changed much due to land price changes or debt levels. The rental market was almost as active at the nominal price peak in 1982 as at the 1987 price trough.

In 1989, 50-55 percent of farmland was leased in the Corn Belt, Northern Plains, Southern Plains, and Delta States—the highest percentages in the nation. About 66 percent of all rented land was paid for in cash. A market this active must be highly competitive, so gross cash rents should be equivalent to expected, though not necessarily actual, gross returns.

The accompanying graphs show that the movements of rents closely mimic movements of farmland prices, especially in the Corn Belt. The only visually obvious difference is that peaks in rents appear to lead peaks in farmland prices by about a year.

If over a long period rents and prices diverged, one could claim that a bubble was affecting farmland asset prices. No such pattern is obvious, indicating, but not proving, that the farmland market has not been subject to a speculative mania.

Stronger evidence against a bubble comes from several fairly new formal statistical tests. These tests, based on rationally formed expectations, reveal that the rent and price series do not diverge. Expectations are considered "rational" when market players use all publicly available information to form expectations about future price movements.

The merit of using statistical tests to reveal whether rents and prices diverge is that the tests are not subject to questions of scale. Pictorial representations can be manipulated to make random motions and short-run divergences between the series appear to be large or a trend.

However, it is impossible to prove conclusively that bubbles do or do not exist. Until economists can say exactly how fixed agricultural land is in agricultural production, no one will be certain how much income should be attributed to land.

### So Why the Boom-Bust Market?

If there was no speculative bubble, the runup in farmland prices during the 1970's must reflect big shifts in expectations. Farmland investors might have believed that farm income would rise at a faster pace or that income would continue to rise at the rate of the 1950's and 1960's.

Alternatively, investors might have reacted to low real interest rates, believing that they ought to value future income more (i.e., reduce the rate at which they discount future income). Increased expected income or reduced expected real interest rates would make farmland values rise.

## Special Articles

Many analysts have stated that aggressive lending policies touched off a speculative bubble in farmland prices. That conclusion appears to be incorrect, but the evidence does not rule out the possibility that aggressive lending, reflected in lower mortgage rates or greater volumes of credit, could have caused investors to reevaluate their expectations. The lenders probably made farmland a much better investment.

The rate of return on farm equity indicates whether aggressive lending was completely responsible for the price increases. In the early 1970's, the rate of return on equity increased rapidly and reached historic highs. Because most equity was in farmland, landowners' wealth was increasing, but the reason why is not obvious.

USDA research split farmers' rate of return on equity into portions representing returns on current income and returns from capital gains. If only the capital gains component had changed, it could be inferred that changing mortgage interest rates were responsible for farmers' increased wealth and that the lower cost of farmland ownership induced the rapid rise in farmland demand.

However, both components of the rate of return on equity rose in tandem and reached record highs during the 1970's. Thus, the hope of finding a single source for the runup is unlikely.

There are many potential sources of changed expectations. Policies and conventional wisdom reversed between the 1970's and

1980's. With real exports growing more than 10 percent a year in the 1970's, many analysts and policymakers expressed concern that farmers worldwide could not produce enough food and that demand for U.S. products would keep rising. But U.S. agricultural exports declined more than 50 percent from their peak during the early 1980's, showing that forecasts of slow food production growth relative to demand growth were wrong.

The Federal Reserve changed its operating procedures from targeting interest rates to limiting money growth in 1979 and sharply cut the inflation rate in the early 1980's. Growth in world agricultural production, a global recession, a higher dollar, and steeply rising real interest rates have been credited with pushing U.S. agriculture into its most severe financial crisis since the Great Depression.

The quadrupling of farmland prices in some regions during the 1970's ought not to be surprising. Many factors changed. Instead of evidence for a speculative bubble, the price changes may show that farmers actually used forecasts cautiously in their business planning. [Fred Kuchler and Abebayehu Tegene (202) 219-0419] **AO**

*For more on this topic, order The Contribution of Speculative Bubbles to Farmland Prices, Technical Bulletin No. 1782, ERS/USDA, by calling 1-800-999-6779 between 8:30 and 5, Eastern time.—Ed.*



# Statistical Indicators

## Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1989		1990					1991	
	I	Annual	I	II	III	IV F	Annual F	IF	Annual F
Prices received by farmers (1977=100)	149	147	152	152	150	144	150	—	—
Livestock & products	159	160	171	172	173	161	170	—	—
Crops	139	134	132	131	129	121	128	—	—
Prices paid by farmers, (1977=100)									
Production items	164	165	168	169	170	—	169	—	—
Commodities & services, interest, taxes, & wages	175	177	181	183	184	—	187	—	—
Cash receipts (\$ bil.) 1/	155	159	159	179	177	161	168-172	—	—
Livestock (\$ bil.)	82	84	87	91	88	90	88-91	—	—
Crops (\$ bil.)	73	75	72	88	89	71	79-82	—	—
Market basket (1982-84=100)									
Retail cost	122	125	133	132	—	—	—	—	—
Farm value	106	107	118	114	—	—	—	—	—
Spread	131	134	141	142	—	—	—	—	—
Farm value/retail cost (%)	31	30	31	30	—	—	—	—	—
Retail prices (1982-84=100)									
Food	123	125	131	132	133	133	132	—	—
At home	122	124	132	131	132	132	132	—	—
Away from home	125	127	131	133	134	136	134	—	—
Agricultural exports (\$ bil.) 2/	10.9	39.7	11.3	9.7	8.5	—	40.0	—	—
Agricultural imports (\$ bil.) 2/	5.8	21.5	6.1	5.7	4.8	—	22.5	—	—
Commercial production									
Red meat (mil. lb.)	9,594	39,418	9,581	9,542	9,638	9,998	38,759	9,519	39,405
Poultry (mil. lb.)	5,070	22,039	5,811	5,904	6,025	6,055	23,598	5,945	24,810
Eggs (mil. doz.)	1,388.8	5,587	1,390	1,413	1,410	1,440	5,653	1,415	5,715
Milk (bil. lb.)	36.6	144.3	36.9	38.5	38.4	35.8	147.7	37.9	149.6
Consumption, per capita									
Red meat and poultry (lb.)	52.9	220.6	53.3	54.1	55.5	58.1	221.0	54.2	226.6
Corn beginning stocks (mil. bu.) 3/	7,071.8	4,259.1	7,079.2	4,812.7	2,843.2	1,344.5	1,930.4	—	1,344
Corn use (mil. bu.) 3/	1,868.3	7,260.2	2,267.0	1,970.1	1,498.9	—	8,115.0	—	9,095
Prices 4/									
Choice steers—Omaha (\$/cwt)	73.67	72.52	77.20	77.52	75.48	74-78	76-77	74-80	75-81
Barrows & gilts—7 mths. (\$/cwt)	40.78	44.03	49.45	59.01	57.55	51-55	54-55	50-58	50-58
Broilers—12-city (cts./lb.)	59.4	59.0	56.5	56.6	57.2	49-53	55-56	50-56	51-57
Eggs—NY gr. A large (cts./doz.)	78.4	81.9	87.8	74.6	77.8	74-78	79-80	64-70	66-72
Milk—all at plant (\$/cwt)	13.13	13.60	14.07	13.57	14.27	13.00-14.00	13.85-14.15	11.75-12.75	10.90-11.90
Wheat—KC HRW ordinary (\$/bu.)	4.36	4.36	4.18	3.88	—	—	—	—	—
Corn—Chicago (\$/bu.)	2.75	2.55	2.42	2.80	—	—	—	—	—
Soybeans—Chicago (\$/bu.)	7.59	6.70	5.70	6.07	—	—	—	—	—
Cotton—Avg. spot mkt. (cts./lb.)	56.2	63.7	65.1	74.3	—	—	—	—	—
	1983	1984	1985	1986	1987	1988	1989	1990 F	1991 F
Gross cash income (\$ bil.)	150.5	155.5	157.2	152.0	164.3	170.4	177	183-189	—
Gross cash expenses (\$ bil.)	111.4	118.8	109.0	104.8	108.2	112.0	123	124-127	—
Net cash income (\$ bil.)	39.2	36.8	48.2	47.2	56.1	58.4	55	59-63	—
Net farm income (\$ bil.)	14.9	26.5	31.2	31.4	41.2	42.0	47	47-52	—
Farm real estate values 5/									
Nominal (\$ per acre)	788	801	713	640	599	632	667	693	714-721
Real (1977 \$)	472	459	395	348	317	322	325	322	317-320

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Dec.-Feb. first quarter; Mar.-May second quarter; June-Aug. third quarter; Sept.-Nov. fourth quarter; Sept.-Aug. annual. Use includes exports & domestic disappearance. 4/ Simple averages. 5/ 1990-91 values as of January 1. 1986-89 values as of February 1. 1982-85 values as of April 1. F = forecast, — = not available.

# U.S. and Foreign Economic Data

## Table 2.—U.S. Gross National Product & Related Data

	Annual			1989			1990	
	1987	1988	1989	II	III	IV	I	II R
\$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	4,515.8	4,873.7	5,200.8	5,174.0	5,238.6	5,289.3	5,375.4	5,443.3
Personal consumption expenditures	3,009.4	3,238.2	3,450.1	3,425.9	3,484.3	3,518.5	3,588.1	3,622.7
Durable goods	423.4	457.5	474.6	473.6	487.1	471.2	492.1	478.4
Nondurable goods	1,001.3	1,060.0	1,130.0	1,127.1	1,137.3	1,148.8	1,174.7	1,179.0
Clothing & shoes	178.4	191.1	204.6	203.4	206.9	208.7	212.9	212.6
Food & beverages	530.7	562.6	595.3	592.5	597.6	602.2	616.4	623.3
Services	1,584.7	1,720.7	1,845.5	1,825.1	1,859.8	1,898.5	1,921.3	1,965.3
Gross private domestic investment	699.5	747.1	771.2	776.7	775.8	782.7	747.2	759.0
Fixed investment	671.2	720.8	742.9	744.0	746.9	737.7	758.9	745.6
Change in business inventories	28.3	26.2	28.3	32.7	28.9	25.0	-11.6	13.4
Net exports of goods & services	-114.7	-74.1	-46.1	-51.3	-49.3	-35.3	-30.0	-24.9
Government purchases of goods & services	921.4	962.5	1,025.6	1,022.7	1,027.8	1,043.3	1,070.1	1,086.4
1982 \$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	3,845.3	4,016.9	4,117.7	4,112.2	4,129.7	4,133.2	4,150.6	4,155.1
Personal consumption expenditures	2,515.8	2,606.5	2,656.8	2,645.3	2,675.3	2,669.9	2,677.3	2,678.8
Durable goods	391.4	418.2	428.0	428.2	438.1	423.1	437.6	426.8
Nondurable goods	892.7	909.4	919.9	914.6	923.4	923.0	915.6	911.2
Clothing & shoes	160.7	165.0	172.7	170.8	176.6	175.1	174.2	171.3
Food & beverages	424.0	462.2	462.9	461.9	463.0	460.3	457.4	459.3
Services	1,231.6	1,278.9	1,309.0	1,302.5	1,313.8	1,323.8	1,324.2	1,340.8
Gross private domestic investment	669.0	705.7	716.9	719.1	722.3	709.1	700.7	700.7
Fixed investment	646.2	682.1	693.1	693.6	697.7	690.2	702.9	691.2
Change in business inventories	22.8	23.6	23.8	25.5	24.6	18.9	-2.2	9.5
Net exports of goods & services	-118.5	-75.9	-54.1	-53.3	-64.1	-47.9	-35.4	-44.6
Government purchases of goods & services	779.1	780.5	798.1	801.0	796.2	802.2	807.9	820.2
GNP implicit price deflator (% change)	3.2	3.3	4.1	3.9	3.2	3.8	4.8	4.7
Disposable personal income (\$ bil.)	3,194.7	3,479.2	3,725.5	3,697.3	3,743.4	3,799.6	3,887.7	3,925.7
Disposable per. income (1982 \$ bil.)	2,670.7	2,800.5	2,869.0	2,854.9	2,874.3	2,883.2	2,900.9	2,902.8
Per capita disposable per. income (\$)	13,094	14,123	14,973	14,883	15,026	15,210	15,527	15,639
Per capita dis. per. income (1982 \$)	10,946	11,368	11,531	11,492	11,538	11,541	11,586	11,564
U.S. population, total, incl. military abroad (mil.)	243.9	246.4	248.8	248.4	249.1	249.8	250.4	251.0
Civilian population (mil.)	241.7	244.1	246.6	246.2	246.9	247.6	248.2	248.5
	Annual			1989			1990	
	1987	1988	1989	Aug	May	June	July	Aug
Monthly data seasonally adjusted								
Industrial production (1987=100)	100.0	105.4	108.1	108.2	109.4	110.0	110.0	109.8
Leading economic indicators (1982=100)	140.1	142.8	144.9	144.8	145.8	146.0	146.0	144.2
Civilian employment (mil. persons)	112.4	115.0	117.3	117.6	118.4	118.4	118.0	117.7
Civilian unemployment rate (%)	6.1	5.4	5.2	5.2	5.3	5.1	5.4	5.5
Personal income (\$ bil. annual rate)	3,766.4	4,070.8	4,384.3	4,398.7	4,621.4	4,640.7	4,664.7	4,677.7
Money stock-M2 (daily avg.) (\$ bil.) 1/	2,913.2	3,072.4	3,221.6	3,146.9	3,270.9	3,278.6	3,283.9	3,302.0
Three-month Treasury bill rate (%)	5.82	6.99	8.12	7.91	7.78	7.74	7.66	7.44
AAA corporate bond yield (Moody's) (%)	9.38	9.71	9.26	8.96	9.47	9.26	9.24	9.41
Housing starts (1,000) 2/	1,621	1,488	1,376	1,325	1,206	1,189	1,148	1,127
Auto sales at retail, total (mil.)	10.3	10.6	9.9	11.3	9.4	9.8	9.7	9.4
Business inventory/sales ratio	1.51	1.49	1.50	1.49	1.49	1.47	1.49	—
Sales of all retail stores (\$ bil.)	128.5	137.5	144.5	146.8	147.8	149.4	150.0 P	149.2
Nondurable goods stores (\$ bil.)	60.5	65.2	69.7	61.2	64.3	65.6	65.9 P	66.4
Food stores (\$ bil.)	25.8	27.2	29.1	26.3	30.4	30.6	30.9 P	30.8
Eating & drinking places (\$ bil.)	12.8	13.8	14.5	14.5	15.2	15.3	15.2 P	15.1
Apparel & accessory stores (\$ bil.)	6.6	7.1	7.6	7.7	8.0	8.1	8.1 P	8.0
	Annual			1989			1990	
	1987	1988	1989	Sept	June	July	Aug	Sept
Average of daily rates								
Foreign exchange value of the dollar								
Japanese yen per U.S. dollar	144.6	128.2	137.9	144.9	153.8	149.0	147.4	138.5
German marks per U.S. dollar	1.797	1.757	1.974	1.949	1.680	1.640	1.570	1.570

1/ Annual data as of December of the year listed. 2/ Private, including farm. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 219-0313.



Table 3.—Foreign Economic Growth, Inflation, &amp; Export Earnings

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 <sup>F</sup>	1991 <sup>F</sup>	Average 1980-89
Annual percent change												
World, less U.S.												
Real GDP	1.5	1.3	2.4	3.7	3.3	3.1	3.3	4.1	2.8	2.7	3.3	2.8
Consumer prices	13.6	13.1	11.9	12.5	12.9	8.5	11.4	17.7	33.2	47.9	11.9	15.2
Merch. exports	-2.7	-8.7	-2.7	5.1	2.4	10.9	19.0	12.7	7.0	10.3	10.1	6.5
Developed less U.S.												
Real GDP	1.1	0.8	2.2	3.9	3.4	2.7	3.4	4.2	3.6	3.2	3.2	2.8
Consumer prices	10.0	8.2	5.9	5.0	4.4	2.7	2.6	3.1	4.3	4.9	4.5	5.7
Merch. exports	-3.2	-4.4	-0.5	6.9	4.6	19.5	17.7	12.3	5.9	12.0	10.6	7.6
Developing												
Real GNP	-2.0	-2.1	-2.2	4.0	-3.9	-4.0	-3.8	-4.1	-4.1	-3.3	-5.3	-3.5
Consumer prices	28.4	25.3	32.7	38.6	40.4	27.0	35.4	57.0	77.9	107.2	28.2	39.0
Merch. exports	-1.8	-10.4	-6.5	2.9	-1.7	-6.0	22.2	13.5	9.6	8.3	10.9	4.7
Asia, Incl. China												
Real GDP	6.1	5.8	8.0	8.3	6.8	6.8	8.0	9.0	5.1	5.4	5.7	7.0
Consumer prices	9.3	8.4	8.6	6.9	7.3	5.6	7.4	11.8	10.1	7.4	6.0	8.4
Merch. exports	7.6	-0.6	4.6	14.6	-0.9	8.8	30.1	23.2	11.5	9.3	12.5	12.6
Latin America												
Real GDP	-0.4	-1.1	-2.8	3.4	3.5	4.0	2.9	0.3	1.0	0.7	4.4	1.7
Consumer prices	60.1	67.1	108.7	133.5	145.1	82.1	116.1	218.0	346.1	312.2	69.4	133.2
Merch. exports	6.5	-10.6	-1.0	6.7	-5.5	-17.9	13.7	14.1	10.2	9.1	10.4	4.6
Africa												
Real GDP	-1.9	2.0	-1.1	0.8	4.1	2.3	1.1	2.3	2.8	3.0	3.8	1.9
Consumer prices	23.4	13.1	17.9	20.8	13.2	12.5	13.1	19.2	22.1	17.1	15.5	16.9
Merch. exports	-19.7	-9.1	-8.0	3.4	-2.4	-17.8	20.9	-8.7	7.8	18.6	8.4	0.1
Middle East												
Real GDP	2.7	1.3	1.7	-0.9	-0.2	-0.6	-0.8	3.6	3.9	3.2	3.4	1.1
Consumer prices	16.8	12.9	11.9	14.3	17.1	14.9	19.2	19.4	14.5	14.2	13.1	15.8
Merch. exports	-3.8	-21.1	-22.2	-10.5	-6.8	-19.2	20.7	4.7	26.7	8.2	7.8	-0.9
Eastern Europe, incl. USSR												
Real GDP	0.6	2.0	3.0	1.8	1.8	3.0	1.3	1.6	-3.5	-4.9	-2.6	1.5
Consumer prices	6.6	12.8	5.4	4.2	6.0	7.4	9.1	15.7	70.3	117.5	15.9	15.3
Merch. exports	9.1	1.3	3.7	1.8	0.2	8.2	11.2	0.3	-1.0	4.2	4.1	5.0

F = forecast.

Information contact: Alberto Jerardo, (202) 219-0706.

## Farm Prices

Table 4.—Indexes of Prices Received &amp; Paid by Farmers, U.S. Average

	Annual			1990						
	1987	1988	1989	1989 Sept	Apr	May	June	July	Aug R	Sept P
1977=100										
Prices received										
All farm products	126	138	147	143	151	154	151	152	151	148
All crops	106	127	134	126	131	134	129	130	126	123
Food grains	103	138	150	151	142	139	127	116	108	104
Feed grains & hay	85	120	128	120	129	136	133	131	126	117
Feed grains	81	117	123	115	123	128	129	128	122	111
Cotton	99	95	98	108	107	108	103	104	107	108
Tobacco	129	138	138	149	147	147	147	144	143	155
Oil-bearing crops	79	108	102	89	93	95	94	95	95	96
Fruit, all	161	164	190	199	196	204	191	205	187	202
Fresh market 1/	194	196	200	209	207	216	202	216	196	213
Commercial vegetables	144	144	156	132	119	124	118	133	138	130
Fresh market	147	137	146	122	106	113	104	122	129	120
Potatoes & dry beans	126	124	187	137	235	235	223	231	205	156
Livestock & products	146	150	160	160	170	173	173	173	174	173
Meat animals	163	168	174	172	193	199	197	196	197	193
Dairy products	129	126	139	144	138	139	142	145	147	148
Poultry & eggs	107	118	138	137	132	126	127	125	129	135
Prices paid										
Commodities & services,										
Interest, taxes, & wage rates	162	169	177	—	183	—	—	184	—	—
Production items	147	157	165	—	169	—	—	170	—	—
Feed	103	128	135	—	128	—	—	130	—	—
Feeder livestock	179	192	194	—	213	—	—	214	—	—
Seed	148	150	185	—	163	—	—	163	—	—
Fertilizer	118	130	137	—	130	—	—	141	—	—
Agricultural chemicals	124	126	132	—	141	—	—	141	—	—
Fuels & energy	161	168	181	—	187	—	—	185	—	—
Farm & motor supplies	145	148	155	—	156	—	—	156	—	—
Autos & trucks	208	215	223	—	234	—	—	233	—	—
Tractors & self-propelled machinery	174	181	193	—	201	—	—	201	—	—
Other machinery	185	197	208	—	217	—	—	217	—	—
Building & fencing	137	138	141	—	144	—	—	143	—	—
Farm services & cash rent	147	148	158	—	163	—	—	163	—	—
Int. payable per acre on farm real estate debt	189	182	177	—	178	—	—	178	—	—
Taxes payable per acre on farm real estate	144	148	152	—	156	—	—	156	—	—
Wage rates (seasonally adjusted)	166	171	185	—	193	—	—	193	—	—
Production items, interest, taxes, & wage rates	151	160	167	—	171	—	—	171	—	—
Ratio, prices received to prices paid (%) 2/	78	82	83	80	83	84	83	83	82	80
Prices received (1910-14=100)	578	633	673	655	689	703	691	694	688	678
Prices paid, etc (parity index) (1910-14=100)	1,110	1,167	1,220	—	1,260	—	—	1,265	—	—
Parity ratio (1910-14=100) (%) 2/	51	54	55	—	58	—	—	58	—	—

1/ Fresh market for noncitrus; fresh market & processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities & services, interest, taxes, & wage rates. Ratio uses the most recent prices paid index. Prices paid data are quarterly & will be published in January, April, July, & October. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 219-0313.

Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1989	1990					
	1987	1988	1989	Sept	Apr	May	June	July	Aug R	Sept P
<b>CROPS</b>										
All wheat (\$/bu.)	2.57	3.72	3.72	3.72	3.49	3.40	3.08	2.79	2.58	2.48
Rice, rough (\$/cwt)	7.27	8.83	7.30	7.59	7.31	7.21	7.08	6.95	6.64	6.44
Corn (\$/bu.)	1.94	2.54	2.38	2.29	2.51	2.62	2.63	2.62	2.51	2.26
Sorghum (\$/cwt)	3.04	4.05	3.79	3.80	3.89	4.04	4.29	4.44	4.14	3.74
All hay, baled (\$/ton)	65.10	85.20	88.00	84.70	91.00	101.00	87.80	85.00	84.40	85.70
Soybeans (\$/bu.)	5.88	7.42	5.70	5.70	5.82	5.98	5.88	5.97	6.13	6.13
Cotton, upland (cts./lb.)	63.7	55.8	6/ 63.3	63.9	65.0	65.4	62.3	62.9	64.8	65.2
Potatoes (\$/cwt)	4.38	6.02	6.85	5.08	9.53	9.52	8.84	9.31	8.36	8.55
Lettuce (\$/cwt) 2/	14.80	14.70	12.60	12.60	8.32	8.60	8.04	12.40	14.50	14.20
Tomatoes fresh (\$/cwt) 2/	25.80	26.90	32.90	23.10	14.80	22.00	21.90	26.80	27.30	23.40
Onions (\$/cwt)	12.50	9.75	11.60	11.30	19.40	13.60	11.20	9.41	9.77	10.20
Dry edible beans (\$/cwt)	16.50	29.80	28.70	25.00	32.60	32.90	33.70	32.90	27.40	17.70
Apples for fresh use (cts./lb.)	12.7	17.4	13.4	16.80	13.3	13.1	12.6	18.4	20.4	24.5
Pears for fresh use (\$/ton)	227.00	358.00	332.00	334.00	415.00	469.00	463.00	430.00	288.00	389.00
Oranges, all uses (\$/box) 3/	5.40	7.18	6.89	6.54	6.60	7.03	5.64	5.19	5.07	5.31
Grapefruit, all uses (\$/box) 3/	4.90	5.43	4.49	7.81	8.19	9.06	10.08	12.32	6.44	7.22
<b>LIVESTOCK</b>										
Beef cattle (\$/cwt)	61.37	66.80	69.68	68.20	74.60	74.40	74.40	73.60	76.10	75.50
Calves (\$/cwt)	78.10	89.85	91.84	91.10	100.40	101.00	98.10	96.50	99.20	98.20
Hogs (\$/cwt)	50.79	42.53	43.24	43.40	53.80	61.20	60.10	60.80	55.90	52.60
Lambs (\$/cwt)	77.92	69.50	67.33	65.90	62.90	59.80	55.40	54.40	54.00	52.60
All milk, sold to plants (\$/cwt)	12.64	12.26	13.59	14.00	13.40	13.50	13.80	14.10	14.30	14.40
Milk, manuf. grade (\$/cwt)	11.37	11.15	12.38	13.20	12.40	12.70	13.10	13.10	12.90	12.90
Broilers (cts./lb.)	28.3	34.0	36.0	36.1	33.2	35.2	34.1	38.9	33.2	35.2
Eggs (cts./doz.) 4/	53.1	63.3	70.0	71.2	71.4	60.2	62.7	55.8	65.6	68.5
Turkeys (cts./lb.)	34.3	37.3	40.0	36.4	37.0	38.2	38.2	38.4	39.9	40.6
Wool (cts./lb.) 5/	91.7	138.0	122.4	115.0	92.6	99.5	93.4	80.4	74.4	71.9

1/ Season average price by crop year for crops. Calendar year average of monthly prices for livestock. 2/ Excludes Hawaii. 3/ Equivalent on-tree returns. 4/ Average of all eggs sold by producers including hatching eggs & eggs sold at retail. 5/ Average local market price, excluding incentive payments. 6/ Weighted average of first 8 months of the season - not a projection for 1989/90. R = revised. P = preliminary.

Information contact: Ann Duncan (202) 219-0313.

## Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Not Seasonally Adjusted)

	Annual	1989	1990							
	1989	Aug	Jan	Feb	Mar	Apr	May	June	July	Aug
			1982-84=100							
Consumer Price Index, all items	124.0	124.6	127.4	128.0	128.7	128.9	129.2	129.9	130.4	131.6
Consumer Price Index, less food	123.7	124.3	126.7	127.3	128.1	128.4	128.7	129.4	130.0	131.3
<b>All food</b>	<b>125.1</b>	<b>125.8</b>	<b>130.4</b>	<b>131.3</b>	<b>131.5</b>	<b>131.3</b>	<b>131.3</b>	<b>132.0</b>	<b>132.7</b>	<b>132.9</b>
Food away from home	127.4	128.1	130.3	131.0	131.8	132.6	133.0	133.4	133.9	134.3
Food at home	124.2	124.9	131.0	132.1	131.9	131.1	130.9	131.7	132.5	132.7
Meats 1/	116.7	117.5	122.3	123.5	124.0	125.2	126.6	129.6	130.3	130.6
Beef & veal	119.3	119.7	124.5	126.2	126.6	128.0	128.5	129.0	129.2	128.5
Pork	113.2	114.8	119.7	119.7	121.0	121.6	125.5	132.9	134.8	136.5
Poultry	132.7	136.2	128.6	130.5	134.6	132.1	132.3	134.0	135.3	133.6
Fish	143.6	145.2	149.0	150.6	148.0	147.2	143.8	143.7	143.3	145.2
Eggs	118.5	115.2	143.9	124.7	131.6	130.3	115.0	112.2	109.1	119.6
Dairy products 2/	115.6	114.5	125.8	126.9	126.8	125.2	124.7	124.9	125.7	127.3
Fats & oils 3/	121.2	121.7	123.5	123.4	124.2	124.3	125.0	125.5	126.6	127.4
Fresh fruit	152.4	151.4	171.4	170.3	171.1	175.7	174.9	173.2	176.6	169.5
Processed fruit	125.9	126.9	125.1	131.9	136.7	138.1	139.2	140.1	140.1	140.0
Fresh vegetables	143.1	145.1	176.9	186.3	168.3	145.6	139.8	140.0	143.8	139.8
Potatoes	153.5	162.3	150.1	160.1	170.6	187.3	187.4	185.8	179.7	169.8
Processed vegetables	124.2	125.9	125.4	126.3	126.6	127.0	127.8	127.6	128.2	128.8
Cereals & bakery products	132.4	134.1	136.9	137.4	137.6	138.9	139.3	140.1	140.5	141.4
Sugar & sweets	119.4	120.6	122.5	122.9	123.0	123.6	124.4	124.5	124.9	125.6
<b>Beverages, nonalcoholic</b>	<b>111.3</b>	<b>111.2</b>	<b>112.4</b>	<b>113.3</b>	<b>113.1</b>	<b>112.4</b>	<b>112.7</b>	<b>113.3</b>	<b>114.0</b>	<b>114.3</b>
<b>Apparel</b>										
Apparel, commodities less footwear	117.1	112.8	114.6	119.0	124.9	126.2	124.5	121.8	118.8	120.5
Footwear	114.4	112.6	113.1	114.5	116.9	118.6	118.5	117.3	116.1	116.3
Tobacco & smoking products	164.4	168.8	174.1	175.0	175.1	175.6	176.7	180.9	185.7	185.8
<b>Beverages, alcoholic</b>	<b>123.5</b>	<b>124.5</b>	<b>126.2</b>	<b>126.9</b>	<b>127.8</b>	<b>128.2</b>	<b>128.9</b>	<b>129.3</b>	<b>129.9</b>	<b>130.2</b>

1/ Beef, veal, lamb, pork, & processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ann Duncan (202) 219-0313.



Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1989	1990					
	1987	1988	1989	Aug	Mar	Apr R	May	June	July	Aug
1982 = 100										
Finished goods 1/	105.4	108.0	113.6	113.4	117.2	117.2	117.7	117.9	118.0	119.2
Consumer foods	109.5	112.6	118.7	118.7	124.4	123.2	124.8	124.5	124.9	125.0
Fresh fruit	112.0	113.5	111.9	109.7	114.8	112.6	105.4	114.7	132.2	118.3
Fresh & dried vegetables	103.7	105.5	116.9	110.7	148.9	103.4	101.6	100.6	104.9	98.6
Dried fruit	95.0	99.1	103.0	103.6	106.4	106.4	105.2	105.2	104.9	104.9
Canned fruit & juices	115.3	120.2	122.6	123.3	127.4	127.6	127.7	127.6	127.3	127.1
Frozen fruit & juice	113.3	129.8	124.6	129.3	147.6	145.9	146.1	146.2	146.3	146.6
Fresh veg. excl. potatoes	99.0	100.4	104.2	96.3	136.6	74.8	78.0	83.7	93.3	79.0
Canned veg. & juices	103.5	108.3	118.6	118.8	118.9	118.8	118.5	118.5	115.9	116.1
Frozen vegetables	107.3	108.6	115.5	116.2	118.5	118.9	119.5	117.6	117.8	118.0
Potatoes	120.1	113.9	153.6	144.3	196.3	198.4	176.0	151.2	139.9	165.4
Eggs	87.6	88.6	119.6	116.7	128.9	127.9	95.3	100.4	91.6	114.4
Bakery products	118.4	126.4	135.4	137.1	140.2	140.3	140.6	141.3	140.6	140.8
Meats	100.4	99.9	104.8	106.0	111.8	114.5	120.1	120.3	119.6	120.0
Beef & veal	95.5	101.4	109.0	109.0	113.7	115.8	117.7	115.7	113.3	116.9
Pork	104.9	95.0	97.5	100.4	109.6	114.1	127.4	130.2	130.9	126.2
Processed poultry	103.4	111.6	120.8	121.2	118.8	114.3	119.2	116.0	120.6	113.9
Fish	140.0	148.7	144.6	135.6	151.5	152.5	175.9	142.4	142.0	143.6
Dairy products	101.6	102.2	110.6	110.7	116.1	115.1	116.7	119.2	119.5	120.0
Processed fruits & vegetables	108.6	113.8	120.0	121.2	126.9	126.9	127.1	126.7	125.7	125.9
Shortening & cooking oil	103.9	118.8	118.6	114.0	121.5	119.7	127.0	128.4	127.7	129.8
Consumer finished goods less foods	100.7	103.1	108.9	108.5	111.8	112.2	112.5	112.8	112.9	115.1
Beverages, alcoholic	110.3	111.8	115.2	117.2	117.8	117.7	117.6	117.4	117.7	116.7
Soft drinks	111.8	114.3	117.2	115.6	123.3	123.1	122.8	120.5	120.7	121.5
Apparel	108.3	111.7	114.5	114.9	116.9	117.2	117.0	117.3	117.5	117.7
Footwear	109.3	115.1	120.8	121.8	125.5	125.4	125.2	125.2	126.0	125.8
Tobacco products	154.6	171.9	164.9	198.1	212.5	212.8	218.0	224.1	224.3	224.3
Intermediate materials 2/	101.5	107.1	112.0	112.0	112.4	112.8	112.9	112.9	113.0	114.4
Materials for food manufacturing	100.8	106.0	112.7	113.3	115.8	117.2	120.5	120.9	120.9	120.5
Flour	92.9	105.7	114.6	114.8	110.6	112.5	111.3	109.0	102.8	95.9
Refined sugar 3/	106.4	108.9	118.3	118.6	121.7	122.4	122.4	122.5	123.1	122.8
Crude vegetable oils	84.2	116.6	103.4	96.7	113.7	112.9	125.5	128.7	126.0	126.4
Crude materials 4/	93.7	96.0	103.1	101.1	105.6	103.0	104.2	101.0	101.2	110.2
Foodstuffs & feedstuffs	96.2	106.1	111.2	110.0	115.3	115.1	116.7	115.2	115.4	113.5
Fruits & vegetables 5/	108.8	108.5	114.1	109.7	133.3	106.9	102.8	106.3	116.3	106.8
Grains	71.1	97.9	106.4	100.3	100.2	107.2	108.6	110.4	103.1	92.1
Livestock	102.0	103.3	106.0	108.8	117.0	117.9	120.0	117.3	114.7	117.8
Poultry, live	101.2	121.5	128.8	125.4	129.1	117.3	128.2	118.5	134.7	122.1
Fibers, plant & animal	106.4	98.4	107.8	118.8	114.7	118.7	121.9	125.9	129.4	125.1
Fluid milk	91.8	89.4	98.1	98.1	100.5	98.0	98.3	101.5	104.7	106.5
Oilseeds	99.2	134.0	123.8	115.3	107.2	108.0	110.5	112.2	114.8	114.8
Tobacco, leaf	85.7	67.2	93.9	92.4	93.7	95.7	95.7	95.7	95.7	93.7
Sugar, raw cane	110.2	111.9	115.5	118.3	116.8	120.3	119.5	119.0	119.7	119.6
All commodities	102.8	106.9	112.2	112.0	114.2	114.1	114.5	114.2	114.3	116.5
Industrial commodities	102.5	106.3	111.6	111.4	113.2	113.2	113.3	113.1	113.2	115.9
All foods 6/	107.8	111.5	117.8	117.8	123.1	122.0	124.1	123.8	124.2	124.1
Farm products & processed foods & feeds	103.7	110.0	115.3	115.0	118.9	118.5	120.2	119.7	120.0	119.2
Farm products	95.5	104.9	110.7	109.3	115.3	113.3	113.1	113.1	113.7	111.5
Processed foods & feeds 6/	107.9	112.7	117.8	117.9	120.9	121.2	123.9	123.1	123.3	123.1
Cereal & bakery products	112.6	123.0	131.1	132.9	133.9	134.6	135.1	134.8	133.9	133.8
Sugar & confectionery	112.6	114.7	120.1	121.3	122.0	122.6	122.7	122.7	123.9	123.7
Beverages	112.5	114.3	118.3	118.3	121.5	121.5	121.0	120.5	120.7	120.5

1/ Commodities ready for sale to ultimate consumer. 2/ Commodities requiring further processing to become finished goods. 3/ All types & sizes of refined sugar. 4/ Products entering market for the first time that have not been manufactured at that point. 5/ Fresh & dried. 6/ Includes all raw, intermediate, & processed foods (excludes soft drinks, alcoholic beverages, & manufactured animal feeds). R = revised.

Information contact: Ann Duncan (202) 219-0313.

## Farm-Retail Price Spreads

Table 8.—Farm-Retail Price Spreads

	Annual			1989	1990					
	1987	1988	1989 P	Aug	Mar	Apr	May	June	July	Aug
<b>Market basket 1/</b>										
Retail cost (1982-84=100)	111.6	116.5	124.6	125.4	132.9	132.2	132.0	133.0	133.6	133.9
Farm value (1982-84=100)	97.1	100.5	107.1	108.8	118.1	113.3	113.8	114.5	114.2	114.3
Farm-retail spread (1982-84=100)	119.4	125.1	134.1	135.5	140.9	142.3	141.9	143.0	144.1	144.5
Farm value-retail cost (%)	30.5	30.2	30.1	29.8	31.1	30.0	30.2	30.1	29.9	29.9
<b>Meat products</b>										
Retail cost (1982-84=100)	109.6	112.2	116.7	117.5	124.0	125.2	126.6	129.6	130.3	130.5
Farm value (1982-84=100)	101.2	99.5	103.3	104.3	113.7	117.0	119.9	122.3	118.9	120.5
Farm-retail spread (1982-84=100)	118.3	125.2	130.4	131.1	134.5	133.6	133.5	137.0	142.0	141.1
Farm value-retail cost (%)	46.7	44.9	44.8	44.9	46.4	47.3	47.9	47.8	46.2	46.7
<b>Dairy products</b>										
Retail cost (1982-84=100)	105.9	108.4	115.6	114.5	126.8	125.2	124.7	124.9	125.7	127.3
Farm value (1982-84=100)	93.3	90.6	99.1	98.2	102.8	98.4	99.2	100.9	103.8	106.2
Farm-retail spread (1982-84=100)	117.5	124.7	130.8	129.5	149.0	149.9	148.2	147.0	145.0	146.7
Farm value-retail cost (%)	42.3	40.1	41.1	41.1	38.9	37.7	38.2	38.8	39.6	40.0
<b>Poultry</b>										
Retail cost (1982-84=100)	112.6	120.7	132.7	136.2	134.9	132.1	132.3	134.0	135.3	133.6
Farm value (1982-84=100)	93.8	110.2	117.1	116.5	116.7	107.9	113.9	110.9	118.6	109.3
Farm-retail spread (1982-84=100)	134.2	132.8	150.8	158.9	155.7	160.0	153.5	160.6	154.5	161.6
Farm value-retail cost (%)	44.6	48.9	47.2	45.8	46.3	43.7	46.1	44.3	46.9	43.8
<b>Eggs</b>										
Retail cost (1982-84=100)	91.5	93.6	118.5	115.2	131.6	130.3	115.0	112.2	109.1	119.6
Farm value (1982-84=100)	76.8	76.7	107.5	110.8	125.6	110.3	88.0	93.1	80.1	100.0
Farm-retail spread (1982-84=100)	117.9	123.9	138.1	123.0	142.3	166.2	163.5	146.5	161.2	154.7
Farm value-retail cost (%)	53.9	52.7	58.3	61.8	61.3	54.4	49.2	53.3	47.2	53.7
<b>Cereal &amp; bakery products</b>										
Retail cost (1982-84=100)	114.8	122.1	132.4	134.1	137.6	138.9	139.3	140.1	140.5	141.4
Farm value (1982-84=100)	71.0	92.7	101.7	99.7	100.0	99.5	98.9	94.9	89.8	85.7
Farm-retail spread (1982-84=100)	120.9	128.2	136.7	138.9	142.8	144.4	144.9	146.4	147.6	149.2
Farm value-retail cost (%)	7.6	9.3	9.4	9.1	8.9	8.8	8.7	8.3	7.8	7.4
<b>Fresh fruits</b>										
Retail cost (1982-84=100)	135.6	145.4	154.7	154.5	172.9	179.1	179.4	178.3	177.2	173.1
Farm value (1982-84=100)	113.9	116.5	108.3	111.1	126.4	118.5	118.0	118.3	121.7	115.6
Farm-retail spread (1982-84=100)	145.7	158.7	176.1	174.6	194.2	207.1	208.6	206.0	202.8	199.6
Farm value-retail cost (%)	26.5	25.3	22.1	22.7	23.1	20.9	20.4	21.0	21.7	21.1
<b>Fresh vegetables</b>										
Retail cost (1982-84=100)	121.6	129.3	143.1	145.1	168.3	145.6	139.9	140.0	143.8	139.8
Farm value (1982-84=100)	112.0	105.8	123.2	121.4	187.6	125.7	112.7	107.6	115.6	115.7
Farm-retail spread (1982-84=100)	128.5	141.3	153.3	157.3	158.4	155.9	153.7	156.6	158.3	152.2
Farm value-retail cost (%)	31.3	27.8	29.2	28.4	37.9	29.3	27.4	26.1	27.3	28.1
<b>Processed fruits &amp; vegetables</b>										
Retail cost (1982-84=100)	109.0	117.6	125.0	126.3	132.2	133.2	134.1	134.6	134.8	135.0
Farm value (1982-84=100)	111.1	136.6	133.6	133.4	146.1	148.9	152.3	152.6	153.1	148.2
Farm-retail spread (1982-84=100)	108.3	111.7	122.3	124.1	127.9	128.3	128.4	129.0	129.1	130.9
Farm value-retail cost (%)	24.2	27.8	25.4	25.1	26.3	26.6	27.0	27.0	27.0	26.1
<b>Fats &amp; oils</b>										
Retail cost (1982-84=100)	108.1	113.1	121.2	121.7	124.2	124.3	125.0	125.5	126.6	127.4
Farm value (1982-84=100)	74.1	103.0	95.6	79.5	108.0	106.3	115.4	114.1	110.9	113.5
Farm-retail spread (1982-84=100)	120.6	116.8	130.6	137.2	130.1	130.9	128.5	129.7	132.4	132.5
Farm value-retail cost (%)	18.6	24.5	21.2	17.6	23.4	23.0	24.8	24.5	23.6	24.0
	Annual			1989	1990					
	1987	1988	1989 P	Aug	Mar	Apr	May	June	July	Aug
<b>Beef, Choice</b>										
Retail price 2/ (cts./lb.)	238.4	250.3	265.7	268.2	272.5	277.9	283.6	282.1	279.9	280.6
Wholesale value 3/ (cts.)	160.0	169.4	176.8	173.7	187.7	190.1	191.6	187.8	183.3	187.8
Net farm value 4/ (cts.)	138.7	148.3	157.6	155.7	169.3	170.8	167.2	163.9	160.5	166.7
Farm-retail spread (cts.)	99.7	102.0	108.1	112.5	103.2	107.1	116.4	118.2	119.4	113.9
Wholesale-retail 5/ (cts.)	78.4	80.9	88.9	94.5	84.9	87.8	92.0	94.3	96.6	92.8
Farm-wholesale 6/ (cts.)	21.3	21.1	19.2	18.0	19.4	19.3	24.4	23.9	22.9	21.1
Farm value-retail price (%)	58	59	59	58	62	61	59	58	57	59
<b>Pork</b>										
Retail price 2/ (cts./lb.)	118.4	183.4	182.9	184.6	197.0	200.9	206.2	218.1	222.2	224.9
Wholesale value 3/ (cts.)	113.0	101.0	99.2	101.3	110.9	114.8	127.2	125.6	127.3	120.5
Net farm value 4/ (cts.)	82.7	69.4	70.4	74.6	83.3	86.1	99.5	96.9	99.2	90.4
Farm-retail spread (cts.)	105.7	114.0	112.5	110.0	113.7	114.8	106.7	121.2	123.0	134.5
Wholesale-retail 5/ (cts.)	75.4	82.4	83.7	83.3	86.1	86.1	78.0	92.5	94.9	104.4
Farm-wholesale 6/ (cts.)	30.3	31.6	28.8	26.7	27.6	28.7	27.7	28.7	28.1	30.1
Farm value-retail price (%)	44	38	38	40	42	43	48	44	45	40

1/ Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by BLS. The farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale & may include marketing charges such as grading & packing for some commodities. The farm-retail spread, the difference between the retail price & the farm value, represents charges for assembling, processing, transporting, distributing. 2/ Weighted average price of retail cuts from pork & choice yield grade 3 beef. Prices from BLS. 3/ Value of wholesale (boxed beef) & wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs & byproduct values. 4/ Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of byproducts. 5/ Charges for retailing & other marketing services such as wholesaling, and in-city transportation. 6/ Charges for livestock marketing, processing, & transportation.

Note: Choice beef series reflects August 1990 revisions.

Information contacts: Denise Dunham (202) 219-0870, Larry Duewer (202) 219-0712.



Table 9.—Price Indexes of Food Marketing Costs

(See the September 1990 issue.)

Information contact: Denis Dunham (202) 219-0870.

## Livestock &amp; Products

Table 10.—U.S. Meat Supply &amp; Use

	Beg. stocks	Produc- tion 1/	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price 3/
							Total	Per capita 2/	
				Million pounds 4/				Pounds	
Beef									
1988	386	23,589	2,379	26,354	680	422	25,252	72.3	69.54
1989	422	23,087	2,175	25,684	1,023	335	24,326	68.9	72.52
1990 F	335	22,853	2,280	25,468	1,025	325	24,118	67.7	76-77
1991 F	325	23,113	2,200	25,638	1,055	315	24,268	67.6	75-81
Pork									
1988	347	15,884	1,137	17,168	195	414	16,559	63.5	43.39
1989	414	15,813	896	17,123	262	285	16,576	63.2	44.03
1990 F	285	15,426	918	16,604	243	350	16,011	60.5	54-55
1991 F	350	15,904	975	17,129	265	375	16,489	61.8	50-56
Veal 5/									
1988	4	398	27	427	10	5	412	1.4	89.85
1989	5	355	0	360	0	4	356	1.2	91.84
1990 F	4	318	0	322	0	5	317	1.0	97-98
1991 F	5	301	0	306	0	4	302	1.0	96-102
Lamb & mutton									
1988	8	335	51	394	1	6	387	1.4	68.26
1989	8	347	63	418	2	8	406	1.5	67.32
1990 F	8	369	50	427	2	8	417	1.5	56-57
1991 F	8	369	55	432	2	7	423	1.5	54-60
Total red meat									
1988	745	40,004	3,594	44,343	886	847	42,610	138.6	—
1989	847	39,602	3,134	43,583	1,287	632	41,664	134.7	—
1990 F	632	38,941	3,248	42,821	1,270	688	40,863	130.7	—
1991 F	688	39,587	3,230	43,505	1,322	701	41,482	131.9	—
Broilers									
1988	25	16,187	0	16,212	765	36	15,410	62.6	56.3
1989	36	17,428	0	17,464	814	38	16,812	66.8	59.0
1990 F	38	18,587	0	18,625	1,087	30	17,508	69.7	55-56
1991 F	30	19,606	0	19,636	1,060	30	18,548	73.3	51-57
Mature chicken									
1988	188	633	0	821	26	157	639	2.6	—
1989	157	575	0	731	24	189	518	2.1	—
1990 F	189	595	0	784	28	200	557	2.2	—
1991 F	200	581	0	781	26	200	555	2.2	—
Turkeys									
1988	266	3,960	0	4,226	51	250	3,926	15.9	61.5
1989	250	4,276	0	4,526	40	236	4,250	17.1	66.7
1990 F	236	4,676	0	4,912	45	260	4,807	18.3	63-64
1991 F	260	4,891	0	5,151	45	250	4,856	19.2	61-67
Total poultry									
1988	479	20,760	0	21,259	842	442	19,975	81.1	—
1989	442	22,280	0	22,722	878	463	21,380	76.0	—
1990 F	463	23,858	0	24,321	1,160	490	22,671	90.3	—
1991 F	490	25,078	0	25,568	1,131	480	23,957	94.7	—
Red meat & poultry									
1988	1,224	60,784	3,594	65,601	1,728	1,289	62,584	219.7	—
1989	1,289	61,882	3,134	66,305	2,165	1,095	63,044	220.6	—
1990 F	1,095	62,799	3,248	67,142	2,430	1,178	63,534	221.0	—
1991 F	1,178	64,665	3,230	69,073	2,453	1,181	65,439	226.6	—

1/ Total including farm production for red meats & federally inspected plus nonfederally inspected for poultry. 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was .71 for 1987, & 70.5 for 1988-90.) 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Choice steers, Omaha 1,000-1,100 lb.; pork: barrows and gilts, 7 markets; veal: farm price of calves; lamb & mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats & certified ready-to-cook for poultry. 5/ Beginning 1989 veal trade no longer reported separately. F = forecast. — = not available.

Information contacts: Polly Cochran, or Maxine Davis (202) 219-0767.

Table 11.—U.S. Egg Supply &amp; Use

	Beg. stocks	Pro-duction	Im-ports	Total supply	Ex-ports	Hatch-ing use	Ending stocks	Consumption		
								Total	Per capita	Wholesale price*
Million dozen										
										Cts./doz.
1986	10.7	5,766.3	13.7	5,790.7	101.6	566.8	10.4	5,111.0	253.8	71.1
1987	10.4	5,868.2	5.6	5,884.2	111.2	599.1	14.4	5,159.5	253.8	81.6
1988	14.4	5,783.5	5.3	5,803.2	141.8	605.9	15.2	5,040.3	245.5	82.1
1989	15.2	5,586.8	25.2	5,627.1	91.6	642.6	10.7	4,882.2	235.5	81.9
1990 F	10.7	5,653.1	11.0	5,674.7	82.2	680.3	12.0	4,900.2	234.3	77-81
1991 F	12.0	5,715.0	8.0	5,735.0	92.0	720.0	12.0	4,911.0	232.9	87-91

\* Cartoned grade A large eggs, New York. F = forecast

Information contact: Maxine Davis (202) 219-0767.

Table 12.—U.S. Milk Supply & Use<sup>1</sup>

	Pro-duction	Farm use	Commercial		Im-ports	Total commercial supply	CCC net re-movals	Commercial		All milk price 2/
			Farm market-ings	Beg. stock				Ending stocks	Disap-pear-ance	
Billion pounds										
1982	135.5	2.4	133.1	5.4	2.5	141.0	14.3	4.6	122.1	13.61
1983	139.6	2.4	137.2	4.9	2.6	144.4	16.8	5.2	122.4	13.58
1984	135.4	2.9	132.4	5.2	2.7	140.4	8.6	4.9	126.8	13.46
1985	143.0	2.6	140.6	4.9	2.8	148.3	13.2	4.6	130.5	12.75
1986	143.1	2.4	140.7	4.6	2.7	148.1	10.6	4.2	133.3	12.51
1987	142.7	2.3	140.5	4.2	2.5	147.1	6.7	4.6	135.8	12.54
1988	145.2	2.2	142.9	4.6	2.4	150.0	8.9	4.3	136.8	12.24
1989	144.3	2.1	142.2	4.3	2.5	148.9	9.0	4.1	135.8	13.54
1990 F	147.7	2.1	145.6	4.1	2.5	152.3	7.7	4.3	140.3	14.00

1/ Milkfat basis. Totals may not add because of rounding. 2/ Delivered to plants & dealers; does not reflect deductions. F = forecast.

Information contact: Jim Miller (202) 219-0770.

Table 13.—Poultry &amp; Eggs

	Annual			1989	1990					
	1987	1988	1989	Aug	Mar	Apr	May	June	July	Aug
Broilers										
Federally inspected slaughter, certified (mil. lb.)	15,502.5	16,124.4	17,334.2	1,604.2	1,607.5	1,489.3	1,635.1	1,632.9	1,516.6	1,682.1
Wholesale price, 12-city (cts./lb.)	47.4	56.3	59.0	67.3	60.4	55.3	57.9	58.4	59.5	54.9
Price of grower feed (\$/ton)	186	220	237	238	221	217	220	220	224	221
Broiler-feed price ratio 1/	3.1	3.1	3.0	3.0	3.3	3.1	3.2	3.1	3.3	3.0
Stocks beginning of period (mil. lb.)	23.9	24.8	35.9	34.9	22.7	31.4	32.9	30.9	30.0	34.3
Broiler-type chicks hatched (mil.) 2/	5,379.2	5,602.4	5,944.3	510.3	643.1	535.8	653.7	640.9	641.0	640.8
Turkeys										
Federally inspected slaughter, certified (mil. lb.)	3,717.1	3,923.4	4,174.8	430.3	366.6	328.4	384.1	389.2	395.7	443.1
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts./lb.)	57.8	61.2	66.7	62.6	58.9	59.6	61.3	62.9	63.4	66.6
Price of turkey grower feed (\$/ton)	213	243	251	247	240	239	239	239	240	235
Turkey-feed price ratio 1/	3.2	3.0	3.2	3.3	3.1	3.1	3.2	3.2	3.2	3.4
Stocks beginning of period (mil. lb.)	178.2	266.2	249.7	496.9	276.3	318.8	354.4	405.6	489.3	641.7
Poultis placed in U.S. (mil.)	264.2	261.4	289.0	23.0	27.3	28.9	29.0	29.2	29.0	25.6
Eggs										
Farm production (mil.)	70,418	69,402	67,041	5,596	5,833	5,853	5,765	5,536	5,699	5,711
Average number of layers (mil.)	284	277	269	266	272	272	270	268	266	267
Rate of lay (eggs per layer on farms)	248	251	250	21.0	21.5	20.8	21.4	20.7	21.5	21.4
Cartoned price, New York, grade A large (cts./doz.) 3/	81.6	62.1	81.9	84.2	91.5	82.4	67.9	73.6	70.9	80.3
Price of laying feed (\$/ton)	169	202	208	208	198	195	197	224	206	205
Egg-feed price ratio 1/	6.3	5.3	6.7	6.9	8.0	6.6	6.1	5.6	5.4	6.4
Stocks, first of month										
Shell (mil. doz.)	0.66	1.29	0.27	0.36	0.48	0.69	0.60	0.63	0.66	0.87
Frozen (mil. doz.)	9.8	13.1	14.9	12.5	11.5	12.7	13.1	12.8	13.7	13.0
Replacement chicks hatched (mil.)	428	366	384	32.8	36.4	37.2	37.7	34.5	31.7	33.0

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks is currently reported for 15 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Maxine Davis (202) 219-0767.



Table 14.—Dairy

	Annual			1989	1990					
	1987	1988	1989	Aug	Mar	Apr	May	June	July	Aug
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	11.23	11.03	12.37	12.37	12.02	12.32	12.78	13.28	13.43	13.09
Wholesale prices										
Butter, grade A Chl. (cts./lb.)	140.2	132.5	127.9	132.8	108.3	106.9	99.0	98.4	100.3	98.9
Am. cheese, Wis. assembly pt. (cts./lb.)	123.2	123.8	138.8	143.3	130.7	140.5	145.7	149.5	151.0	150.3
Nonfat dry milk (cts./lb.) 2/	79.3	80.2	105.5	110.7	88.6	104.3	125.4	129.2	125.2	112.1
USDA net removals										
Total milk equiv. (mil. lb.) 3/	6,706.0	8,858.2	8,987.9	-69.5	936.7	974.5	1,014.2	498.8	324.8	324.5
Butter (mil. lb.)	187.3	312.6	413.4	-8.1	45.0	46.9	48.9	23.9	23.9	15.8
Am. cheese (mil. lb.)	282.0	238.1	37.4	3.1	0	0	0	0	0	0
Nonfat dry milk (mil. lb.)	559.4	287.5	0	0	0	0	0	0	0	0
Milk										
Milk prod. 21 States (mil. lb.)	121,431	123,518	122,531	10,074	10,997	10,842	11,226	10,696	10,695	10,479
Milk per cow (lb.)	13,969	14,291	14,370	1,184	1,292	1,274	1,319	1,257	1,257	1,229
Number of milk cows (1,000)	8,693	8,643	8,527	8,508	8,510	8,507	8,513	8,512	8,511	8,523
U.S. milk production (mil. lb.)	142,709	145,152	144,252	11,848	6/ 12,983	6/ 12,777	6/ 13,229	6/ 12,605	6/ 12,587	6/ 12,333
Stock, beginning										
Total (mil. lb.)	12,867	7,440	8,234	13,907	9,819	10,851	11,418	12,465	13,241	13,452
Commercial (mil. lb.)	4,165	4,648	4,289	5,976	4,712	5,008	5,145	5,383	5,495	5,653
Government (mil. lb.)	8,702	2,794	3,945	7,930	5,107	5,843	6,272	7,082	7,746	7,799
Imports, total (mil. lb.) 3/	2,490	2,394	2,499	236	195	253	216	258	232	—
Commercial disappearance (mil. lb.)	135,754	138,805	135,843	12,120	11,770	11,733	12,004	12,064	12,150	—
Butter										
Production (mil. lb.)	1,104.1	1,207.5	1,273.5	80.7	120.2	120.0	120.5	95.9	85.1	83.8
Stocks, beginning (mil. lb.)	193.0	143.2	214.7	461.3	285.1	318.8	349.1	392.2	417.2	418.1
Commercial disappearance (mil. lb.)	902.5	909.8	854.1	88.9	72.6	75.0	68.9	80.2	63.2	—
American cheese										
Production (mil. lb.)	2,718.7	2,756.8	2,872.6	210.2	255.2	249.9	264.7	252.5	236.4	229.3
Stocks, beginning (mil. lb.)	897.1	370.4	293.0	319.3	272.4	292.7	299.6	314.1	333.1	357.8
Commercial disappearance (mil. lb.)	2,437.1	2,570.0	2,581.8	217.6	235.3	243.9	251.8	237.0	214.7	—
Other cheese										
Production (mil. lb.)	2,827.7	2,815.4	2,941.3	244.5	274.8	265.1	280.8	276.3	266.2	258.6
Stocks, beginning (mil. lb.)	92.0	89.7	104.7	118.3	103.8	104.0	112.7	119.5	129.1	124.0
Commercial disappearance (mil. lb.)	2,880.2	3,034.5	3,208.9	270.0	294.8	278.6	297.7	293.2	296.9	—
Nonfat dry milk										
Production (mil. lb.)	1,056.8	979.7	874.7	52.7	77.4	90.0	95.1	83.3	72.7	62.9
Stocks, beginning (mil. lb.)	688.8	177.2	53.1	68.9	58.8	81.8	82.8	70.8	93.3	108.7
Commercial disappearance (mil. lb.)	492.9	734.3	873.0	62.6	75.3	96.9	87.6	61.0	57.7	—
Frozen dessert										
Production (mil. gal.) 4/	1,260.7	1,248.0	1,214.0	121.5	103.9	104.1	114.2	119.0	125.3	118.0
	Annual			1989				1990		
	1987	1988	1989	I	II	III	IV	I P	II P	III P
Milk production (mil. lb.)	142,709	145,152	144,252	36,445	37,702	35,188	34,917	36,940	38,611	38,711
Milk per cow (lb.)	13,819	14,145	14,244	3,586	3,727	3,484	3,448	3,644	3,813	3,819
No. of milk cows (1,000)	10,327	10,262	10,127	10,184	10,118	10,101	10,127	10,137	10,128	10,144
Milk-feed price ratio 5/	1.84	1.58	1.64	1.86	1.48	1.63	1.92	1.82	1.87	1.77
Returns over concentrate 5/ costs (\$/cwt milk)	9.52	9.05	10.08	9.69	8.96	9.92	12.18	11.32	10.20	10.95

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area. 3/ Milk equivalent, fat basis. 4/ Hard ice cream, ice milk, & hard sherbet. 5/ Based on average milk price after adjustment for price support deductions. 6/ Estimated. P = preliminary. — = not available.

Information contact: LaVerne T. Williams (202) 219-0770.

Table 15.—Wool

	Annual			1989			1990		
	1987	1988	1989	II	III	IV	I	II	III
U.S. wool price, (cts./lb.) 1/	265	438	370	372	350	328	289	272	237
Imported wool price, (csts./lb.) 2/	247	372	354	322	309	316	327	312	271
U.S. mill consumption, scoured 3/									
Apparel wool (1,000 lb.)	129,877	117,069	112,998	29,991	25,983	24,921	29,948	30,066	—
Carpet wool (1,000 lb.)	13,092	15,633	14,122	3,979	3,865	2,984	3,779	3,607	—

1/ Wool price delivered at U.S. mills, clean basis. Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" & up. 2/ Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents. 3/ Beginning 1990 mill consumption reported only on a quarterly basis. — = not available.

Information contact: John Lawler (202) 219-0840.

Table 16.—Meat Animals

	Annual			1989	1990						
	1987	1988	1989	Aug	Mar	Apr	May	June	July	Aug	
Cattle on feed (7 States)											
Number on feed (1,000 head) 1/	7,953	8,411	8,045	6,783	8,319	8,483	8,181	7,867	7,310	7,003	
Placed on feed (1,000 head)	21,040	20,854	20,834	1,638	1,902	1,377	1,632	1,340	1,520	1,735	
Marketings (1,000 head)	19,545	19,918	19,422	1,694	1,618	1,554	1,796	1,824	1,750	1,668	
Other disappearance (1,000 head)	1,217	1,202	1,079	76	120	125	150	73	77	82	
Beef steer—corn price ratio, Omaha 2/	41.0	31.6	30.3	32.0	32.8	31.1	29.3	27.9	28.5	30.9	
Hog—corn price ratio, Omaha 2/	32.8	19.6	18.4	20.9	21.9	21.2	23.6	22.4	23.9	23.1	
Market prices (\$/cwt)											
Slaughter cattle											
Choice steers, Omaha	64.60	69.64	72.52	71.09	78.15	79.36	77.57	75.63	74.46	76.22	
Utility cows, Omaha	44.83	46.65	47.68	50.39	54.67	54.48	55.41	56.04	54.56	56.07	
Feeder cattle											
Choice, Kansas City, 600–700 lb.	75.38	83.87	86.13	88.40	87.50	90.81	91.90	94.13	93.50	91.50	
Slaughter hogs											
Barrows & gilts, 7–markets	61.69	43.39	44.03	46.84	51.91	54.11	62.18	60.75	61.87	66.05	
Feeder pigs											
S. Mo. 40–50 lb. (per head)	46.69	36.06	33.63	30.00	63.19	64.97	56.80	47.32	46.35	45.85	
Slaughter sheep & lambs											
Lambs, Choice, San Angelo	78.09	68.26	67.32	67.28	63.69	63.13	62.25	53.56	53.25	51.20	
Ewes, Good, San Angelo	38.62	38.88	38.58	30.65	38.81	36.60	33.25	32.38	34.83	36.60	
Feeder lambs											
Choice, San Angelo	102.26	90.89	79.85	75.60	75.63	71.31	64.30	56.60	53.75	58.30	
Wholesale meat prices, Midwest											
Boxed beef cut-out value*	103.84	110.50	114.76	112.83	122.10	123.62	124.56	121.53	118.54	121.52	
Canner & cutter cow beef	85.26	87.77	94.43	95.33	102.04	100.81	101.29	101.51	101.62	105.22	
Pork loins, 14–16 lb. 3/	106.23	97.49	101.09	110.03	117.26	120.68	136.06	125.62	144.14	119.56	
Pork bellies, 12–14 lb.	63.11	41.25	34.14	28.82	42.60	52.60	61.48	65.15	53.18	51.08	
Hams, skinned, 14–17 lb.	80.96	71.03	69.39	68.00	79.00	77.33	81.60	NQ	NQ	NQ	
All fresh beef retail price 4/	212.64	224.81	238.97	240.11	249.10	252.88	251.52	254.05	255.75	254.71	
Commercial slaughter (1,000 head)*											
Cattle	35,647	35,079	33,917	3,047	2,764	2,618	2,989	2,934	2,852	2,983	
Steers	17,443	17,344	16,536	1,492	1,398	1,348	1,547	1,518	1,450	1,508	
Heifers	10,906	10,754	10,406	972	834	771	884	913	910	928	
Cows	6,610	6,337	6,316	619	481	448	480	448	439	486	
Bulls & stags	689	644	650	64	51	51	58	55	53	63	
Calves	2,815	2,506	2,172	195	171	132	142	137	144	152	
Sheep & lambs	5,199	5,293	5,484	494	493	487	478	440	447	482	
Hogs	81,081	87,795	88,693	7,588	7,454	6,959	6,976	6,322	6,164	7,301	
Commercial production (mil. lb.)											
Beef	23,405	23,424	22,874	2,092	1,870	1,747	2,007	1,979	1,939	2,062	
Veal	416	387	344	29	28	23	26	25	26	28	
Lamb & mutton	309	329	341	29	32	31	31	28	28	30	
Pork	14,312	15,623	15,759	1,333	1,328	1,247	1,256	1,142	1,102	1,309	
	Annual			1989				1990			
	1987	1988	1989	I	II	IV	I	II	III	IV	
Cattle on feed (13 States)											
Number on feed (1,000 head) 1/	9,555	10,114	9,688	9,818	8,680	8,276	9,943	10,063	8,761	—	
Placed on feed (1,000 head)	25,074	24,423	24,484	5,212	5,719	7,321	6,088	5,111	—	—	
Marketings (1,000 head)	23,126	23,459	22,955	6,040	5,896	5,361	5,583	6,013	5,950	—	
Other disappearance (1,000 head)	1,389	1,390	1,274	410	227	293	385	400	—	—	
Hogs & pigs (10 States) 5/											
Inventory (1,000 head) 1/	39,730	42,676	43,210	41,655	44,020	45,200	42,200	40,190	42,800	44,410	
Breeding (1,000 head) 1/	5,125	5,435	5,335	6,440	5,565	6,335	5,280	5,250	5,440	6,340	
Market (1,000 head) 1/	34,605	37,240	37,875	36,215	38,455	39,865	36,920	34,940	37,360	39,070	
Farrowings (1,000 head)	8,853	9,370	9,203	2,580	2,324	2,190	2,013	2,458	2,266	2,252	
Pig crop (1,000 head)	68,955	72,268	71,807	20,309	18,167	16,890	15,748	19,576	17,922	—	

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Prior to 1984, 8–14 lb.; 1984 & 1985, 14–17 lb.; beginning 1986, 14–18 lb. 4/ New series estimating the composite price of all beef grades & ground beef sold by retail stores. This new series is in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 5/ Quarters are Dec. of preceding year—Feb. (I), Mar.—May (II), June—Aug. (III), & Sept.—Nov. (IV). 6/ Intentions.  
 \* Classes estimated. NQ = not quote. — = not available.

Note: \*This series replaces the Choice steer beef price, 600–700 lb., which was discontinued with the June number. The new number is the value of Choice beef from a yield grade 1–3, 550–700 lb. carcass.

Information contact: Polly Cochran (202) 219-0787.



## Crops &amp; Products

Table 17.—Supply & Utilization<sup>1,2</sup>

	Area				Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price 5/
	Set aside 3/	Planted	Harvested	Yield								
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Wheat	18.6	75.6	64.7	37.5	2,424	3,865	284	767	909	1,960	1,905	3.08
1985/86	21.0	72.1	60.7	38.4	2,091	4,017	401	796	999	2,199	1,821	2.42
1986/87	23.9	65.8	56.0	37.7	2,108	3,945	280	806	1,598	2,684	1,281	2.57
1987/88	22.5	65.5	53.2	34.1	1,812	3,096	157	816	1,419	2,394	702	3.72
1988/89*	9.6	78.6	62.1	32.8	2,037	2,762	160	832	1,233	2,225	538	3.72
1989/90*	7.1	77.3	69.9	39.6	2,744	3,301	425	828	1,125	2,378	946	2.55-2.85
1990/91*												
	Mil. acres		Lb./acre					Mil. cwt (rough equiv.)				\$/cwt
Rice	1.24	2.51	2.49	5,414	134.9	201.8	—	8/ 65.8	58.7	124.5	77.3	8.53
1985/86	1.48	2.38	2.36	5,651	133.4	213.3	—	8/ 77.7	84.2	161.9	51.4	3.75
1986/87	1.57	2.36	2.33	5,555	129.6	184.0	—	8/ 80.4	72.2	152.5	31.4	7.27
1987/88	1.09	2.93	2.90	5,514	159.9	195.0	—	8/ 82.3	85.9	168.2	26.7	8.83
1988/89*	1.21	2.73	2.69	5,749	154.5	185.4	—	8/ 82.4	78.8	159.2	26.3	7.30
1989/90*	1.03	2.67	2.81	5,629	158.1	189.1	—	8/ 88.8	74.0	162.8	26.3	6.25-7.25
1990/91*												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Corn	5.4	83.4	75.2	118.0	8,875	10,534	4,107	1,160	1,227	6,494	4,040	2.23
1985/86	14.3	76.7	68.9	119.4	8,228	12,267	4,701	1,192	1,492	7,325	4,882	1.50
1986/87	23.1	65.2	59.5	119.8	7,131	12,016	4,812	1,229	1,716	7,757	4,259	1.94
1987/88	20.5	67.7	58.3	84.6	4,929	9,191	3,987	1,245	2,028	7,260	1,930	2.54
1988/89*	10.8	72.3	64.8	116.2	7,527	9,460	4,465	1,290	2,360	8,115	1,344	2.38
1989/90*	10.1	74.5	68.7	120.3	8,022	9,368	4,700	1,320	2,075	8,095	1,273	2.20-2.60
1990/91*												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Sorghum	0.9	16.3	16.8	66.8	1,120	1,420	664	28	178	869	551	1.93
1985/86	3.0	15.3	13.9	67.7	938	1,489	535	12	199	746	743	1.37
1986/87	4.1	11.8	10.5	69.4	731	1,474	555	25	231	811	663	1.70
1987/88	3.9	10.3	9.0	63.8	577	1,239	468	22	310	800	440	2.27
1988/89*	3.3	12.6	11.2	55.4	618	1,057	518	15	305	838	220	2.10
1989/90*	3.0	10.7	9.3	60.7	562	782	440	15	225	680	102	2.00-2.40
1990/91*												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Barley	0.7	13.2	11.6	51.0	591	848	333	169	22	523	325	1.98
1985/86	2.1	13.1	12.0	50.8	611	944	298	174	137	608	336	1.61
1986/87	2.9	11.0	9.9	52.4	521	869	254	174	120	548	321	1.81
1987/88	2.8	9.8	7.6	38.0	290	622	168	180	79	425	196	2.80
1988/89*	2.3	9.2	8.3	48.6	404	615	185	180	89	454	161	2.42
1989/90*	2.6	8.3	7.6	55.2	419	595	175	185	85	445	150	2.00-2.30
1990/91*												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Oats	0.1	13.3	8.2	63.7	521	728	480	82	2	544	184	1.23
1985/86	0.6	14.7	6.9	56.3	388	603	395	73	3	471	133	1.21
1986/87	0.8	18.0	6.9	54.0	374	552	358	81	1	440	112	1.56
1987/88	0.3	13.9	5.5	39.3	218	393	194	100	1	294	98	2.61
1988/89*	0.4	12.1	6.9	54.3	374	544	271	115	1	367	157	1.49
1989/90*	0.2	10.4	6.0	60.2	358	576	330	120	1	451	125	1.10-1.20
1990/91*												
	Mil. acres		Bu./acre					Mil. bu.				\$/bu.
Soybeans	0	63.1	61.6	34.1	2,099	2,415	0	1,053	740	1,879	536	5.05
1985/86	0	60.4	56.3	33.3	1,940	2,476	0	1,179	757	2,040	436	4.78
1986/87	0	58.2	57.2	33.9	1,938	2,374	0	1,174	802	2,072	302	5.88
1987/88	0	58.8	57.4	27.0	1,549	1,855	0	1,058	527	1,673	182	7.42
1988/89*	0	60.6	59.5	32.3	1,924	2,109	0	1,145	620	1,870	239	5.70
1989/90*	0	57.7	56.5	32.3	1,823	2,067	0	1,180	615	1,892	175	5.70-7.00
1990/91*												
	Mil. acres		Bu./acre					Mil. lbs.				7/ Cts./lb.
Soybean oil	—	—	—	—	11,617	12,257	—	10,053	1,257	11,310	947	18.00
1985/86	—	—	—	—	12,783	13,745	—	10,833	1,187	12,020	1,725	15.40
1986/87	—	—	—	—	12,974	8/ 14,895	—	10,930	1,873	12,803	2,092	22.65
1987/88	—	—	—	—	11,737	8/ 13,967	—	10,591	1,681	12,252	1,715	21.10
1988/89*	—	—	—	—	12,955	8/ 14,700	—	12,000	1,525	13,525	1,175	22.30
1989/90*	—	—	—	—	13,000	8/ 14,275	—	12,000	1,300	13,300	975	23.0-26.0
1990/91*												
	Mil. acres		Bu./acre					1,000 tons				9/ \$/ton
Soybean meal	—	—	—	—	24,951	25,338	—	19,090	6,036	25,126	212	155
1985/86	—	—	—	—	27,758	27,970	—	20,387	7,343	27,730	240	163
1986/87	—	—	—	—	28,060	28,300	—	21,293	8,854	28,147	153	222
1987/88	—	—	—	—	24,843	25,100	—	19,639	5,288	24,927	173	233
1988/89*	—	—	—	—	27,572	27,750	—	22,500	5,000	27,500	250	174
1989/90*	—	—	—	—	28,095	28,350	—	22,600	5,500	28,100	250	175-200
1990/91*												

See footnotes at end of table.

Table 17.—Supply &amp; Utilization, continued

	Area			Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending Stocks	Farm price 5/
	Set Aside 3/	Planted	Harvested									
	Mil. acres			Lb./acre		Mil. bales						
Cotton 10/												
1985/86	3.6	10.7	10.2	630	13.4	17.6	—	6.4	2.0	8.4	9.4	56.50
1986/87	4.2	10.0	8.5	552	9.7	19.1	—	7.4	6.7	14.1	5.0	52.40
1987/88	3.9	10.4	10.0	708	14.9	19.8	—	7.8	6.6	14.2	5.8	64.30
1988/89*	2.2	12.5	12.0	619	15.4	21.2	—	7.6	6.2	13.9	7.1	56.60
1989/90*	3.5	10.6	9.5	614	12.2	19.3	—	8.8	7.7	16.5	3.0	65.80
1990/91*	1.9	12.3	11.5	609	14.6	17.6	—	8.2	6.8	15.0	2.7	—

\*October 11, 1990 Supply and Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, & oats; August 1 for cotton & rice; September 1 for soybeans, corn, & sorghum; October 1 for soybean meal & soybean oil. 2/ Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3/ Includes diversion, PIK, acreage reduction, 50-92, & 0-92 programs. 4/ Includes imports. 5/ Market average prices do not include an allowance for loans outstanding & Government purchases. 6/ Residual included in domestic use. 7/ Average of crude soybean oil, Decatur. 8/ Includes 196 million pounds in imports for 1987/88, 138 million in 1989/89, 15 million in 1989/90, & 60 million in 1990/91. 9/ Average of 44 percent, Decatur. 10/ Upland & extra long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply & use estimates & changes in ending stocks. — = not available or not applicable.

Information contact: Commodity Economics Division, Crops Branch (202) 219-0840.

Table 18.—Food Grains

	Marketing year 1/				1989					
	1985/86	1986/87	1987/88	1988/89	Aug	Apr	May	June	July	Aug
Wholesale Prices										
Wheat, No. 1 HRW, Kansas City (\$/bu.) 2/	3.28	2.72	2.96	4.17	4.24	4.13	3.91	3.60	3.11	2.89
Wheat, DNS, Minneapolis (\$/bu.) 2/	3.25	2.62	2.92	4.25	4.22	NQ	NQ	NQ	NQ	NQ
Rice, S.W. La. (\$/cwt) 3/	16.11	10.26	19.25	14.85	18.40	15.65	16.80	15.65	15.30	15.80
Wheat										
Exports (mil. bu.)	915	1,004	1,592	1,424	90	91	75	89	83	—
Mill grind (mil. bu.)	703	755	753	778	—	62	64	61	62	—
Wheat flour production (mil. cwt)	314	335	338	348	—	27	28	27	28	—
Rice										
Exports (mil. cwt, rough equiv.)	58.7	84.2	72.2	85.8	6.1	7.3	4.8	4.4	3.2	—

	Marketing year 1/			1989			1990			
	1986/87	1987/88	1988/89	Mar-May	June-Aug	Sept-Nov	Dec-Feb	Mar-May	June-Aug	Sept-Nov
Wheat										
Stocks, beginning (mil. bu.)	1,905	1,821	1,261	1,227.7	701.6	1,017.2	1,423.7	943.1	536.5	2,402.0
Domestic use										
Food (mil. bu.)	712	721	715	165.0	183.1	183.1	180.5	184.3	190.0	—
Seed, feed & residual (mil. bu.) 4/	485	365	260	-2.8	273.1	-12.8	44.9	-44.9	428.1	—
Exports (mil. bu.)	999	1,598	1,419	368.0	369.9	328.6	259.7	274.8	265.0	—

1/ Beginning June 1 for wheat & August 1 for rice. 2/ Ordinary protein. 3/ Long grain, milled basis. 4/ Residual includes feed use. — = not available, NQ = no quote.

Information contacts: Ed Allen & Janet Livezey (202) 219-0840.

Table 19.—Cotton

	Marketing year 1/				1989					
	1985/86	1986/87	1987/88	1988/89	Aug	Apr	May	June	July	Aug
U.S. price, SLM, 1-1/16 in. (cts./lb.) 2/	60.0	53.2	63.1	57.7	60.9	71.3	74.6	77.1	79.5	78.3
Northern Europe prices index (cts./lb.) 3/	48.9	62.0	72.7	66.4	83.0	83.0	86.9	90.3	90.9	81.0
U.S. M 1-3/32 in. (cts./lb.) 4/	64.8	61.6	76.3	69.2	65.2	84.6	88.9	92.7	95.9	80.5
U.S. mill consumption (1,000 bales)	6,399	7,452	7,617	7,782	832	700	789	723	641	805
Exports (1,000 bales)	1,969	6,684	6,582	6,148	507	734	590	538	440	—
Stocks, beginning (1,000 bales)	4,102	9,348	5,028	5,771	7,092	8,099	6,665	5,287	3,923	3,000

1/ Beginning August 1. 2/ Average spot market. 3/ Liverpool Cotton (A) index; average of five lowest prices of 11 selected growths. 4/ Memphis territory growths. — = not available.

Information contact: Scott Sanford (202) 219-0840.



Table 20.—Feed Grains

	Marketing year 1/				1989	1990				
	1985/86	1986/87	1987/88	1988/89	Aug	Apr	May	June	July	Aug
<b>Wholesale prices</b>										
Corn, no. 2 yellow, 30 day, Chicago (\$/bu.)	2.35	1.64	2.14	2.68	2.30	2.72	2.83	2.84	2.73	2.52
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	3.72	2.73	3.40	4.17	3.88	4.32	4.47	4.54	4.82	4.27
Barley, feed, Duluth (\$/bu.) 2/	1.53	1.44	1.78	2.31	2.17	2.27	2.33	2.39	2.17	1.99
Barley, malting, Minneapolis (\$/bu.)	2.24	1.89	2.04	4.11	3.57	2.97	3.17	2.92	2.36	2.35
Exports 3/										
Corn (mil. bu.)	1,241	1,504	1,723	2,036	291	194	214	201	148	3,90
Feed grains (mil. metric tons) 4/	36.6	46.3	52.3	61.3	3.68	5.7	6.2	5.6	4.3	4.71
	Marketing year 1/				1989			1990		
	1985/86	1986/87	1987/88	1988/89	Mar-May	June-Aug	Sept-Nov	Dec-Feb	Mar-May	June-Aug
<b>Corn</b>										
Stocks, beginning (mil. bu.)	1,648	4,040	4,882	4,259	5,204	3,419	1,930	7,079	4,813	2,839
<b>Domestic use</b>										
Feed (mil. bu.)	4,095	4,714	4,805	3,979	849	690	1,499	1,290	1,022	689
Food, seed, ind. (mil. bu.)	1,160	1,192	1,229	1,245	337	330	298	295	351	336
Exports (mil. bu.)	1,241	1,504	1,723	2,036	600	470	582	682	601	485
Total use (mil. bu.)	6,496	7,410	7,757	7,260	1,787	1,490	2,379	2,267	1,974	1,510

1/ September 1 for corn & sorghum; June 1 for oats & barley. 2/ Beginning March 1987 reporting point changed from Minneapolis to Duluth. 3/ Includes products. 4/ Aggregated data for corn, sorghum, oats, & barley.

Information contact: James Cole (202) 219-0840.

Table 21.—Fats &amp; Oils

	Marketing year *				1989	1990				
	1985/86	1986/87	1987/88	1988/89	July	Mar	Apr	May	June	July
<b>Soybeans</b>										
Wholesale price, no. 1 yellow, Chicago (\$/bu.)	5.20	5.03	6.67	7.41	6.97	5.85	5.98	6.22	6.01	6.05
Crushings (mil. bu.)	1,052.8	1,178.8	1,174.5	1,057.7	74.0	102.8	95.1	93.4	91.9	92.2
Exports (mil. bu.)	740.7	756.9	801.8	530.8	16.7	88.0	43.6	23.1	35.2	20.8
Stocks, beginning (mil. bu.)	316.0	536.4	436.4	302.5	46.1	91.4	83.4	73.0	67.5	58.8
<b>Soybean oil</b>										
Wholesale price, crude, Decatur (cts./lb.)	18.02	15.36	22.67	21.09	19.9	21.8	24.2	23.7	24.9	23.5
Production (mil. lb.)	11,617.3	12,783.1	12,974.5	11,737.0	835.9	1,142.4	1,066.6	1,050.1	1,035.8	1,038.0
Domestic disp. (mil. lb.)	10,045.9	10,620.2	10,734.1	10,455.6	932.7	988.0	1,012.7	1,103.5	1,003.1	903.9
Exports (mil. lb.)	1,257.3	1,184.5	1,873.2	1,658.2	159.3	164.4	33.0	112.1	161.9	122.6
Stocks, beginning (mil. lb.)	632.5	946.6	1,725.0	2,092.2	2,683.1	1,702.9	1,694.9	1,716.8	1,550.8	1,421.7
<b>Soybean meal</b>										
Wholesale price, 44% protein, Decatur (\$/ton)	154.88	162.61	221.90	233.46	231.50	165.10	165.40	176.60	169.10	171.30
Production (1,000 ton)	24,951.3	27,758.8	28,060.2	24,942.7	1,749.2	2,432.3	2,263.7	2,224.2	2,183.4	2,196.6
Domestic disp. (1,000 ton)	19,117.2	20,367.4	21,275.9	19,792.5	1,568.2	1,815.6	1,834.9	1,853.1	1,757.8	1,903.0
Exports (1,000 ton)	6,009.3	7,343.0	6,871.0	5,130.8	134.0	586.8	433.0	426.3	415.6	288.4
Stocks, beginning (1,000 ton)	386.9	211.7	240.2	153.5	218.0	262.0	311.8	307.7	252.6	282.5
<b>Margarine, wholesale price, Chicago, white (cts./lb.)</b>										
	51.2	40.3	40.3	52.3	53.2	54.2	54.3	60.0	63.6	63.6

\* Beginning September 1 for soybeans; October 1 for soybean meal & oil; calendar year for margarine.

Information contacts: Roger Hoskin (202) 219-0840, Tom Bickerton (202) 219-0824.

Table 22.—Farm Programs, Price Supports, Participation &amp; Payment Rates

	Target price	Loan rate	Findley loan rate	Payment rates		PIK	Base acres 1/	Program 2/	Participation rate 3/
				Deficiency	Paid land diversion				
						Percent 4/	Mill. acres		Percent of base
			\$/bu.						
Wheat									
1984/85	4.38	3.30	—	1.00	2.70	85	94.0	20/10/10-20	80/60/20
1985/86	4.38	3.30	—	1.08	2.70	—	94.0	20/10/0	73
1986/87 5/	4.38	3.00	2.40	1.98	2.00	1.10	91.6	22.5/2.5/5-10	65/65/21
1987/88	4.38	2.85	2.28	1.81	—	—	87.6	27.5/0/0	88
1988/89	4.23	2.76	2.21	0.69	—	—	84.8	27.5/0/0	88
1989/90	4.10	2.58	2.08	7/ 0.32	—	—	82.3	10/0/0	78
1990/91	4.00	2.44	1.95	1.00	—	—	80.5	* 5/0/0	80
			\$/cwt						
Rice									
1984/85	11.00	8.00	—	3.76	—	—	4.1	25/0/0	85
1985/86	11.00	8.00	6/ 3.16	3.90	3.50	—	4.2	20/15/0	90
1986/87 5/	11.00	7.20	6/ 3.82	4.70	—	—	4.2	35/0/0	94
1987/88	11.68	6.84	6/ 5.77	4.82	—	—	4.1	35/0/0	96
1988/89	11.15	6.63	6/ 6.30	4.31	—	—	4.1	25/0/0	94
1989/90	10.80	6.50	6/ 6.50	3.58	—	—	4.1	25/0/0	95
1990/91	10.71	6.50	—	3.71	—	—	4.2	20/0/0	92
			\$/bu.						
Corn									
1984/85	3.03	2.55	—	0.43	—	—	80.8	10/0/0	54
1985/86	3.03	2.55	—	0.48	—	—	84.2	10/0/0	69
1986/87 5/	3.03	2.40	1.92	1.11	—	—	81.7	17.5/2.5/0	88
1987/88	3.03	2.28	1.82	1.09	2.00	—	81.5	20/15/0	90
1988/89	2.93	2.21	1.77	7/ 0.38	1.75	—	82.9	20/10/0; 0/92	87
1989/90	2.84	2.08	1.65	7/ 0.58	—	—	82.7	10/0/0; 0/92	80
1990/91	2.75	1.96	1.57	0.15	—	—	82.7	10/0/0; 0/92	76
			\$/bu.						
Sorghum									
1984/85	2.88	2.42	—	0.46	—	—	16.4	8/ (same)	42
1985/86	2.88	2.42	—	0.46	—	—	19.3	—	55
1986/87 5/	2.88	2.28	1.82	1.08	0.65	—	19.0	—	75
1987/88	2.88	2.17	1.74	0.82	1.90	—	17.4	—	84
1988/89	2.78	2.10	1.65	0.48	1.65	—	16.8	—	82
1989/90	2.70	1.96	1.57	7/ 0.68	—	—	16.2	—	71
1990/91	2.61	1.86	1.49	0.21	—	—	15.4	—	75
			\$/bu.						
Barley									
1984/85	2.60	2.08	—	0.26	—	—	11.8	8/ (same)	44
1985/86	2.60	2.08	—	0.52	—	—	13.3	—	57
1986/87 5/	2.60	1.85	1.56	0.99	0.57	—	12.4	—	72
1987/88	2.60	1.88	1.49	0.62	1.60	—	12.5	—	84
1988/89	2.51	1.80	1.44	1.04	1.40	—	12.5	—	79
1989/90	2.43	1.68	1.34	7/ 0.23	—	—	12.4	—	69
1990/91	2.38	1.60	1.28	0.26	—	—	11.9	—	68
			\$/bu.						
Oats									
1984/85	1.60	1.31	—	0.00	—	—	9.8	8/ (same)	14
1985/86	1.60	1.31	—	0.29	—	—	9.4	—	14
1986/87 5/	1.60	1.23	0.99	0.39	0.36	—	9.2	—	37
1987/88	1.60	1.17	0.94	0.20	0.80	—	8.4	—	45
1988/89	1.55	1.13	0.90	0.30	—	—	7.9	5/0/0; 0/92	30
1989/90	1.50	1.08	0.85	0.00	—	—	7.6	5/0/0; 0/92	23
1990/91	1.45	1.01	0.81	0.00	—	—	7.5	5/0/0; 0/92	10
			\$/bu.						
Soybeans 9/									
1984/85	—	5.02	—	—	—	—	—	—	—
1985/86	—	5.02	—	—	—	—	—	—	—
1986/87 5/	—	4.77	—	—	—	—	—	—	—
1987/88	—	4.77	—	—	—	—	—	—	—
1988/89	—	4.77	—	—	—	—	—	—	—
1989/90	—	4.53	—	—	—	—	—	10/ 10/25	—
1990/91	—	4.50	—	—	—	—	—	10/ 0/25	—
			Cts./lb.						
Upland cotton									
1984/85	81.0	55.00	—	18.60	—	—	15.8	25/0/0	70
1985/86	81.0	57.30	—	23.70	30.00	—	15.9	20/10/0	82/0/0
1986/87 5/	81.0	55.00	11/ 44.00	26.00	—	—	15.5	25/0/0	93
1987/88	79.4	52.25	12/ —	17.3	—	—	14.5	25/0/0	93
1988/89	75.9	51.80	12/ —	19.4	—	—	14.5	12.5/0/0	89
1989/90	73.4	50.00	12/ —	13.1	—	—	14.8	25/0/0	89
1990/91	72.9	50.27	12/ —	6.3	—	—	14.5	12.5/0/0	86

1/ Includes planted area plus acres considered planted (ARP, PLD, 0-92 etc). Net of CRP. 2/ Percentage of base acres that farmers participating in Acreage Reduction Programs/Paid Land Diversion/PIK were required to devote to conserving uses to receive program benefits. 3/ Percentage of base acres enrolled in Acreage Reduction Programs/Paid Land Diversion/PIK. 4/ Percent of program yield, except 1986/87 wheat, which is dollars per bushel. 1984 PIK rates apply only to the 10-20 portion. 5/ Rates for payments received in cash were reduced by 4.3 percent in 1986/87 due to Gramm-Rudman-Hollings. 6/ Annual average world market price. 7/ Guaranteed to farmers signed up for 0/92. 8/ The sorghum, oats, & barley programs were the same as for corn in each year except 1988-90, when the oats ARP was lower than for the other feed grains. 9/ There are no target prices, acreage programs, or payment rates for soybeans. 10/ Soybean program data refer to percent of program crop base permitted to shift into beans without loss of base. 11/ Loan repayment rate. 12/ Loans may be repaid at the lower of the loan rate or world market prices. \*On September 13, the Secretary announced that participating farmers have the option of planting up to 105 percent of their wheat base to boost 1990 supplies. For every acre planted in excess of 95 percent of base, the acreage used to compute deficiency payments will be cut by 1 acre. — = not available.



Table 23.—Fruit

	1981	1982	1983	1984	1985	1986	1987	1988	1989 P
Citrus 1/ Production (1,000 ton)	15,105	12,139	13,682	10,632	10,525	11,058	11,993	12,761	13,186
Per capita consumpt. (lbs.) 2/	104.4	109.3	120.0	102.8	109.1	117.3	112.8	113.6	—
Noncitrus 3/ Production (1,000 tons)	13,332	14,658	14,168	14,301	14,191	13,874	16,011	15,884	16,300
Per capita consumpt. (lbs.) 2/	88.0	89.2	88.7	93.9	91.8	96.4	101.5	97.7	—
	1990								
	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
F.o.b. shipping point prices									
Apples (\$/carton) 4/	9.00	8.83	11.00	11.00	11.00	11.00	11.28	13.85	19.88
Pears (\$/box) 5/	11.75	12.00	13.85	14.00	14.00	14.00	15.88	—	—
Grower prices									
Oranges (\$/box) 6/	5.63	4.70	4.93	5.33	6.60	7.03	10.08	5.19	—
Grapefruit (\$/box) 6/	5.18	4.62	4.68	6.23	8.19	9.06	5.64	12.32	—
Stocks, ending									
Fresh apples (mil. lbs.)	3,220.8	2,571.7	2,024.6	1,399.6	1,004.3	589.8	283.9	118.9	8.8
Fresh pears (mil. lbs.)	272.8	200.2	153.0	104.8	63.0	26.9	2.3	33.8	199.8
Frozen fruits (mil. lbs.)	805.2	727.9	661.7	609.0	591.0	583.7	653.2	790.8	858.0
Frozen orange juice (mil. lbs.)	749.6	926.6	1,041.5	1,119.2	1,170.0	1,586.2	1,074.8	1,008.1	859.8

1/ 1989 indicated 1988/89 season. 2/ Per capita consumption for total U.S. population, including military consumption of both fresh and processed fruit in fresh weight equivalent. 3/ Calendar year. 4/ Red delicious, Washington, extra fancy, carton tray pack, 125's. 5/ D'Anjou, Washington, standard box wrapped, U.S. no. 1, 135's. 6/ U.S. equivalent on-tree returns. P = preliminary. — = not available.

Information contact: Wynne Napper (202) 219-0884.

Table 24.—Vegetables

	Calendar year									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Production										
Total vegetables (1,000 cwt)	395,225	392,343	430,795	403,509	456,334	453,030	448,629	478,381	470,222	544,195
Fresh (1,000 cwt) 1/ 3/	179,416	183,456	193,451	185,782	201,817	203,549	203,165	220,539	230,484	240,360
Processed (tons) 2/ 3/	10,790,440	10,444,330	11,887,170	10,888,350	12,725,880	12,474,040	12,273,200	12,892,100	11,988,910	18,191,740
Mushrooms (1,000 lbs.)	469,576	517,148	490,826	561,531	595,881	587,956	614,393	631,819	667,759	715,010
Potatoes (1,000 cwt)	303,905	340,623	355,131	333,728	382,039	406,609	361,743	389,320	356,438	370,494
Sweet potatoes (1,000 cwt)	10,953	12,799	14,833	12,083	12,902	14,573	12,368	11,611	10,945	11,358
Dry edible beans (1,000 cwt)	26,729	32,751	25,563	16,520	21,070	22,175	22,886	29,031	19,253	24,333
	1990									
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Shipments										
Fresh (1,000 cwt) 4/	21,968	17,467	21,652	17,748	19,860	22,475	35,292	30,291	21,826	22,037
Potatoes (1,000 cwt)	11,282	11,722	13,096	10,738	12,095	12,809	16,062	10,136	8,255	10,029
Sweet potatoes (1,000 cwt)	756	476	301	255	251	331	288	187	109	101

1/ Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes. 2/ Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, & cauliflower. 3/ Asparagus & cucumber estimates were not available for 1982 & 1983. 4/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, & watermelons. — = not available.

Information contacts: Gary Lucier or Cathy Greene (202) 219-0884.

Table 25.—Other Commodities

	Annual					1989			1990	
	1985	1986	1987	1988	1989	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June
Sugar										
Production 1/	5,989	6,257	7,309	7,087	8,827	677	817	3,709	1,671	572
Deliveries 1/	8,035	7,786	8,167	8,188	8,309	2,056	2,161	2,190	1,968	2,048
Stocks, ending 1/	3,128	3,225	3,195	3,132	2,933	2,351	1,224	2,933	3,112	2,165
Coffee										
Composite green price N.Y. (cts/lb.)	137.46	185.18	109.14	115.59	95.17	118.01	72.29	63.70	73.22	78.65
Imports, green bean equiv. (mil. lbs.) 2/	2,550	2,596	2,638	2,072	2,630	535	784	725	866	702
	Annual					1989			1990	
	1987	1988	1989	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Tobacco										
Prices at auctions 3/										
Flue-cured (\$/lb.)	1.59	1.61	—	—	1.70	1.58	—	—	—	—
Burley (\$/lb.)	1.56	1.61	—	—	—	1.67	1.68	1.68	1.67	—
Domestic consumption 4/										
Cigarettes (bil.)	575.0	562.5	540.1	51.7	48.2	50.0	34.4	38.4	41.1	48.5
Large cigars (mil.)	2,728	2,531	2,467.6	217.6	211.4	212.5	187.0	165.5	164.3	198.5

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green & processed coffee. 3/ Crop year July-June for flue-cured, Oct.-Sept. for burley. 4/ Taxable removals. — = not available.

Information contacts: sugar, Peter Buzzanelli (202) 219-0886, coffee, Fred Gray (202) 219-0888, tobacco, Verner Grise (202) 219-0890.

## World Agriculture

Table 26.—World Supply &amp; Utilization of Major Crops, Livestock, &amp; Products

	1984/85	1985/86	1986/87	1987/88	1988/89 P	1989/90 P	1990/91 F
Million units							
<b>Wheat</b>							
Area (hectares)	231.2	229.6	228.2	220.4	218.4	225.8	230.7
Production (metric tons)	511.9	500.1	530.7	503.1	501.2	537.1	592.1
Exports (metric tons) 1/	108.5	90.7	90.7	105.0	96.8	96.8	95.4
Consumption (metric tons) 2/	493.0	496.2	522.5	531.1	532.4	536.9	566.1
Ending stocks (metric tons) 3/	164.4	168.3	176.4	148.5	117.2	117.5	143.5
<b>Coarse grains</b>							
Area (hectares)	334.6	341.3	336.5	324.4	326.0	323.3	324.1
Production (metric tons)	815.7	843.0	831.8	793.9	731.2	800.3	823.9
Exports (metric tons) 1/	99.3	84.9	83.3	83.2	94.5	100.7	91.8
Consumption (metric tons) 2/	782.5	778.8	808.0	814.8	798.0	826.9	827.1
Ending stocks (metric tons) 3/	143.9	208.2	234.0	213.2	146.4	119.8	116.1
<b>Rice, milled</b>							
Area (hectares)	144.2	144.9	145.2	141.5	145.5	146.5	145.9
Production (metric tons)	318.9	318.9	318.7	313.7	330.2	340.8	345.0
Exports (metric tons) 4/	11.3	12.6	12.9	11.9	15.1	12.4	13.2
Consumption (metric tons) 2/	310.4	319.5	322.8	319.5	328.2	334.9	342.1
Ending stocks (metric tons) 3/	55.5	54.9	50.9	45.1	47.1	53.0	55.8
<b>Total grains</b>							
Area (hectares)	710.0	715.8	709.9	686.3	689.9	695.6	700.7
Production (metric tons)	1,846.5	1,862.0	1,681.2	1,610.7	1,562.6	1,678.2	1,781.0
Exports (metric tons) 1/	219.1	188.2	186.9	200.1	206.4	209.9	200.4
Consumption (metric tons) 2/	1,585.9	1,594.5	1,651.3	1,665.4	1,658.6	1,698.7	1,735.9
Ending stocks (metric tons) 3/	363.8	431.4	461.3	406.8	310.7	290.3	315.4
<b>Oilseeds</b>							
Crush (metric tons)	150.7	155.1	161.4	167.7	165.6	172.3	178.4
Production (metric tons)	191.1	198.2	194.4	209.5	202.9	211.2	216.1
Exports (metric tons)	33.1	34.5	37.7	39.5	31.9	35.1	34.9
Ending stocks (metric tons)	21.1	26.8	23.3	24.0	22.3	22.4	19.4
<b>Meals</b>							
Production (metric tons)	101.8	105.0	110.5	115.1	111.8	117.3	120.7
Exports (metric tons)	32.3	34.4	36.7	36.3	38.3	38.6	39.0
<b>Oils</b>							
Production (metric tons)	46.2	49.4	50.3	53.1 <sup>1</sup>	53.6	56.9	58.6
Exports (metric tons)	15.6	16.4	16.9	17.7	18.4	19.4	19.2
<b>Cotton</b>							
Area (hectares)	33.9	31.9	29.9	31.1	33.8	32.3	33.6
Production (bales)	88.2	80.8	70.9	81.4	84.6	79.7	87.0
Exports (bales)	20.2	20.3	26.0	23.3	25.8	24.2	24.2
Consumption (bales)	70.0	77.3	82.8	84.5	85.6	86.6	86.4
Ending stocks (bales)	42.4	47.0	34.6	31.5	30.1	23.6	23.6
	1985	1986	1987	1988	1989	1990 P	1991 F
<b>Red meat</b>							
Production (metric tons)	103.6	106.5	109.6	113.4	115.2	114.5	116.1
Consumption (metric tons)	101.5	105.3	107.8	111.7	113.8	113.8	115.0
Exports (metric tons) 1/	6.3	6.7	6.6	7.0	7.2	6.6	6.9
<b>Poultry 5/</b>							
Production (metric tons)	26.2	29.3	31.3	32.9	34.1	35.7	37.1
Consumption (metric tons)	25.8	28.9	30.8	32.5	33.8	35.2	36.7
Exports (metric tons) 1/	1.2	1.2	1.5	1.7	1.8	2.0	2.1
<b>Dairy</b>							
Milk production (metric tons)	413.4	419.0	427.1	429.8	431.3	437.3	—

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years & do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1985 data correspond with 1984/85, etc. 5/ Poultry excludes the Peoples Republic of China before 1986. P = preliminary, F = forecast.

Information contacts: Crops, Frederic Surtis (202) 219-0824; red meat & poultry, Linda Bailey (202) 219-1285; dairy, Sara Short (202) 219-0770.



## U.S. Agricultural Trade

**Table 27.—Prices of Principal U.S. Agricultural Trade Products**

	Annual			1989	1990					
	1987	1988	1989	Aug	Mar	Apr	May	June	July	Aug
<b>Export commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	3.11	3.97	4.85	4.49	4.28	4.40	4.10	3.89	3.41	3.21
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	1.95	2.73	2.85	2.58	2.80	3.02	3.09	3.08	2.93	2.80
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	1.88	2.52	2.70	2.54	2.84	2.79	2.84	2.79	2.79	2.67
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	6.55	7.81	7.06	6.28	6.16	6.24	6.40	6.23	6.32	6.42
Soybean oil, Decatur (cts./lb.)	15.85	23.52	20.21	17.88	22.92	23.20	24.49	24.98	24.64	24.76
Soybean meal, Decatur (\$/ton)	175.57	234.75	216.59	214.70	164.34	168.85	176.98	169.60	171.30	171.09
Cotton, 8-market avg. spot (cts./lb.)	64.35	57.25	63.78	69.99	68.08	71.31	74.61	77.08	79.53	76.27
Tobacco, avg. price at auction (cts./lb.)	144.32	153.81	151.58	159.16	160.54	164.88	164.88	164.68	161.00	159.51
Rice, f.o.b. mill, Houston (\$/cwt)	13.15	19.60	18.88	16.50	16.25	16.25	16.25	16.25	16.25	15.81
Indebis tallow, Chicago (cts./lb.)	13.79	16.64	14.71	13.52	14.47	13.77	13.66	14.00	10.06	12.16
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb.)	1.09	1.21	1.04	0.78	0.85	0.84	0.84	0.78	0.75	0.81
Rubber, N.Y. spot (cts./lb.)	50.65	59.20	50.65	47.21	45.91	45.84	45.80	46.00	45.80	47.46
Cocoa beans, N.Y. (\$/lb.)	0.87	0.99	0.55	0.55	0.50	0.59	0.63	0.57	0.58	0.55

Information contact: Mary Teymourian (202) 219-0824

**Table 28.—Indexes of Real Trade-Weighted Dollar Exchange Rates<sup>1</sup>**

	1989		1990								
	Nov	Dec	Jan	Feb P	Mar P	Apr P	May P	June P	July P	Aug P	Sept P
	1985 = 100										
<b>Total U.S. trade 2/</b>	77.0	69.4	67.8	67.2	68.6	67.9	66.8	67.4	65.5	63.2	62.5
<b>Agricultural trade</b>											
U.S. markets	79.5	78.5	78.1	77.9	79.1	79.2	78.4	78.8	79.4	78.9	79.0
U.S. competitors 3/	82.4	84.0	80.1	80.3	79.5	79.7	79.8	79.8	79.5	78.7	78.5
<b>Wheat</b>											
U.S. markets	90.2	89.3	88.9	88.7	88.7	89.7	89.5	90.1	93.5	96.0	97.1
U.S. competitors 3/	80.4	84.6	79.6	80.6	80.6	79.6	79.7	79.7	78.5	77.0	76.4
<b>Soybeans</b>											
U.S. markets	71.4	70.0	69.3	69.0	70.6	70.5	69.4	69.9	68.7	67.0	66.6
U.S. competitors 3/	84.7	105.9	82.0	81.8	77.7	80.3	80.3	80.3	80.5	80.6	80.7
<b>Corn</b>											
U.S. markets	73.3	72.6	72.7	72.5	74.3	74.8	73.6	74.0	74.9	73.8	73.7
U.S. competitors 3/	88.4	101.2	85.1	85.0	85.8	85.3	85.0	85.8	84.9	83.4	83.1
<b>Cotton</b>											
U.S. markets	76.0	75.7	76.1	76.1	77.7	78.1	77.1	77.5	76.7	75.8	75.8
U.S. competitors	79.3	79.0	77.8	77.5	76.7	76.9	75.0	74.4	82.5	83.4	83.1

1/ Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of Agricultural Outlook for a discussion of the calculations and the weights used.  
 2/ Federal Reserve Board index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets.  
 3/ Substantial devaluations of the Argentine austral and Brazilian cruzado resulted in a sharp increase in the December, 1989, & subsequent values of these indices. P = preliminary.

Information contact: Tim Baxter, David Stallings (202) 219-0718.

**Table 29.—Trade Balance**

	Fiscal year 1/								July
	1983	1984	1985	1986	1987	1988	1989	1990 F	1990
	\$ million								
<b>Exports</b>									
Agricultural	34,789	38,027	31,201	26,312	27,876	35,316	39,652	40,000	2,766
Nonagricultural	159,373	170,014	179,236	179,291	202,911	258,656	302,506	—	26,392
Total 2/	194,142	208,041	210,437	205,603	230,787	293,972	342,158	—	29,158
<b>Imports</b>									
Agricultural	16,373	18,916	19,740	20,884	20,650	21,014	21,477	22,000	1,802
Nonagricultural	230,527	297,736	313,722	342,846	367,374	409,138	441,074	—	39,187
Total 3/	246,900	316,652	333,462	363,730	388,024	430,152	462,551	—	40,989
<b>Trade balance</b>									
Agricultural	18,396	19,111	11,461	5,428	7,226	14,302	18,175	18,000	964
Nonagricultural	-71,154	-127,722	-134,486	-163,555	-164,463	-150,482	-138,568	—	-12,795
Total	-52,758	-108,611	-123,025	-158,127	-157,237	-136,180	-120,393	—	-11,831

1/ Fiscal years begin October 1 & end September 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. 2/ Domestic exports including Department of Defense shipments (F.A.S. value). 3/ Imports for consumption (customs value). F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 219-0822.

Table 30.—U.S. Agricultural Exports &amp; Imports

	Fiscal year*			July	Fiscal year*			July
	1988	1989	1990 F	1990	1988	1989	1990 F	1990
	1,000 units				\$ million			
EXPORTS								
Animals, live (no.) 1/	429	757	—	58	452	475	—	18
Meats & preps., excl. poultry (mt)	831	869	0	89	1,797	2,355	—	207
Dairy products (mt)	388	594	—	32	536	475	400	64
Poultry meats (mt)	390	466	800	38	424	514	—	46
Fats, oils, & greases (mt)	1,382	1,377	3/1,300	98	545	531	—	36
Hides & skins incl. furskins	—	—	—	—	1,837	1,713	—	146
Cattle hides, whole (no.) 1/	20,817	26,280	—	1,981	1,458	1,380	—	121
Mink pelts (no.) 1/	2,455	3,073	—	172	88	91	—	4
Grains & feeds (mt)	108,748	114,774	—	7,598	12,573	16,829	4/16,000	1,078
Wheat (mt)	40,517	37,642	28,500	2,180	4,469	6,004	5/4,600	304
Wheat flour (mt)	1,038	1,176	1,000	44	170	255	—	10
Rice (mt)	2,173	3,041	2,400	113	733	955	800	36
Feed grains, incl. products (mt)	53,117	61,049	69,200	4,382	5,193	7,383	8,000	543
Feeds & fodders (mt)	11,255	11,077	6/11,000	812	1,720	1,849	—	130
Other grain products (mt)	648	789	—	85	288	383	—	55
Fruits, nuts, and preps. (mt)	2,410	2,554	—	227	2,368	2,394	—	231
Fruit juices incl.	—	—	—	—	—	—	—	—
froz. (1,000 hectoliters) 1/	5,497	4,997	—	571	252	264	—	31
Vegetables & preps. (mt)	1,821	2,478	—	194	1,280	1,542	—	172
Tobacco, unmanufactured (mt)	229	212	200	9	1,297	1,274	1,400	58
Cotton, excl. linters (mt)	1,388	1,441	1,800	96	2,138	2,040	2,900	157
Seeds (mt)	288	511	—	33	415	507	800	27
Sugar, cane or beet (mt)	318	368	—	40	98	134	—	18
Oilseeds & products (mt)	29,591	21,074	—	976	7,692	6,632	6,100	290
Oilseeds (mt)	21,504	14,614	—	593	5,229	4,368	—	158
Soybeans (mt)	21,045	14,116	16,900	563	5,000	4,089	3,800	134
Protein meal (mt)	6,389	4,962	4,400	287	1,500	1,358	1,000	61
Vegetable oils (mt)	1,699	1,498	—	96	962	908	—	71
Essential oils (mt)	9	13	—	1	120	171	—	13
Other	495	322	—	5	1,494	1,802	—	175
Total	148,064	147,053	148,500	9,412	35,318	39,652	40,000	2,766
IMPORTS								
Animals, live (no.) 1/	2,238	2,485	—	174	729	740	800	81
Meats & preps., excl. poultry (mt)	1,280	1,091	—	102	2,788	2,432	—	256
Beef & veal (mt)	779	668	725	64	1,681	1,525	1,800	153
Pork (mt)	456	371	345	35	1,001	778	800	94
Dairy products (mt)	337	323	—	26	881	834	900	99
Poultry & products 1/	—	—	—	—	97	130	—	9
Fats, oils, & greases (mt)	20	14	—	2	19	14	—	1
Hides & skins, incl. furskins 1/	—	—	—	—	247	241	—	8
Wool, unmanufactured (mt)	56	62	—	2	292	319	—	10
Grains & feeds (mt)	3,075	3,467	3,550	274	868	1,139	1,200	96
Fruits, nuts, & preps., excl. juices (mt)	4,797	5,036	5,150	396	2,169	2,269	—	189
Bananas & plantains (mt)	3,030	3,039	3,200	266	820	851	900	76
Fruit juices (1,000 hectoliters) 1/	26,758	27,747	30,300	3,121	768	792	—	94
Vegetables & preps. (mt)	2,518	2,953	—	104	1,593	1,959	2,300	123
Tobacco, unmanufactured (mt)	217	169	180	27	811	521	500	87
Cotton, unmanufactured (mt)	36	13	—	1	9	8	—	1
Seeds (mt)	143	158	170	4	153	187	200	8
Nursery stock & cut flowers 1/	—	—	—	—	419	468	—	25
Sugar, cane or beet (mt)	1,078	1,657	—	141	372	620	—	58
Oilseeds & products (mt)	1,772	1,917	1,950	165	838	948	900	78
Oilseeds (mt)	208	424	—	53	71	159	—	20
Protein meal (mt)	253	359	—	21	42	65	—	3
Vegetable oils (mt)	1,311	1,133	—	91	725	721	—	54
Beverages excl. fruit juices (1,000 hectoliters) 1/	15,583	13,967	—	1,290	2,008	1,815	—	160
Coffee, tea, cocoa, spices	1,813	1,887	—	162	4,274	3,896	—	275
Coffee, incl. products (mt)	1,050	1,084	1,250	91	2,600	2,487	2,300	150
Cocoa beans & products (mt)	562	564	565	55	1,164	969	900	89
Rubber & allied gums (mt)	848	927	850	81	949	1,051	800	50
Other	—	—	—	—	931	1,097	—	113
Total	—	—	—	—	21,014	21,477	22,500	1,802

\*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. 1/ Not included in total volume. 2/ Forecasts for footnoted items 2/-6/ are based on slightly different groups of commodities. Fiscal 1988 exports of categories used in the 1989 forecasts were 2/ 581,000 m. tons. 3/ 1,347 million dollars 4/ 12,743 million. 5/ 4,638 million, i.e. includes flour. 6/ 11,095 million m. tons. F = forecast. — = not available.

Information contact: Stephen MacDonald (202) 219-0822.



Table 31.—U.S. Agricultural Exports by Region

Region & country	Fiscal year*			July	Change from year* earlier			July
	1988	1989	1990 F	1990	1988	1989	1990 F	1990
	\$ million				Percent			
WESTERN EUROPE	8,004	7,074	7,000	322	11	-12	-1	-8
European Community (EC-12)	7,488	6,565	6,500	293	10	-12	-1	-7
Belgium-Luxembourg	429	431	—	21	1	1	—	-31
France	563	474	—	22	14	-16	—	-7
Germany, Fed. Rep.	1,273	918	—	49	1	-28	—	14
Italy	713	609	—	25	-3	-15	—	-54
Netherlands	2,095	1,847	—	42	-8	-12	—	-39
United Kingdom	818	738	—	57	23	-10	—	32
Portugal	340	307	—	31	25	-10	—	46
Spain, incl. Canary Islands	848	878	—	28	29	3	—	98
Other Western Europe	518	510	500	29	20	-2	0	-18
Switzerland	192	166	—	6	32	-14	—	-51
EASTERN EUROPE	559	422	500	31	23	-24	25	58
German Dem. Rep.	87	72	—	0	0	8	—	-99
Poland	167	45	—	12	165	-73	—	268
Yugoslavia	104	78	—	2	-21	-28	—	-30
Romania	93	62	—	15	-19	-33	—	288
USSR	1,940	3,299	3,100	92	194	70	-6	-45
ASIA	15,928	18,680	18,400	1,396	33	17	-2	-14
West Asia (Mideast)	1,904	2,273	2,200	130	14	19	0	-42
Turkey	120	238	—	13	3	97	—	-59
Iraq	735	791	600	8	39	8	-25	-87
Israel, incl. Gaza & W. Bank	334	330	—	18	37	-1	—	-42
Saudi Arabia	464	482	500	45	-5	4	0	-18
South Asia	805	1,161	—	58	133	44	—	-30
Bangladesh	107	213	—	1	-3	98	—	-93
India	354	243	—	13	281	-31	—	-22
Pakistan	276	599	500	29	181	117	-17	5
China	813	1,496	800	80	181	144	-47	-61
Japan	7,274	8,152	8,300	652	31	12	1	3
Southeast Asia	1,015	975	—	80	43	-4	—	-2
Indonesia	238	216	—	17	57	-9	—	-46
Philippines	345	344	400	32	33	0	33	65
Other East Asia	4,318	4,823	5,100	396	24	7	11	2
Taiwan	1,577	1,594	1,800	123	16	1	13	9
Korea, Rep.	2,250	2,453	2,700	217	33	9	6	0
Hong Kong	488	575	700	55	12	18	17	-5
AFRICA	2,274	2,281	2,100	101	27	0	4	-47
North Africa	1,659	1,798	1,700	45	30	8	-5	-70
Morocco	193	218	—	11	-2	12	—	269
Algeria	537	549	600	13	120	2	20	-78
Egypt	788	955	700	18	3	21	-30	-78
Sub-Saharan	614	483	400	56	22	-21	-20	49
Nigeria	44	30	—	5	-35	-31	—	228
Rep. S. Africa	85	57	—	22	74	-34	—	997
LATIN AMERICA & CARIBBEAN	4,401	5,445	5,200	432	17	24	-4	-1
Brazil	176	152	100	11	-58	-13	-33	-29
Caribbean Islands	867	1,007	—	80	5	16	—	-7
Central America	414	448	—	43	10	8	—	0
Colombia	178	139	—	8	55	-22	—	-35
Mexico	1,728	2,783	2,700	218	42	60	-4	5
Peru	174	81	—	10	24	-54	—	11
Venezuela	597	587	200	36	30	-2	-66	0
CANADA	1,973	2,182	3,400	363	11	11	56	115
OCEANIA	237	288	300	29	3	13	0	52
Total	35,316	39,652	40,000	2,786	27	12	1	-7
Developed countries	17,857	18,003	18,800	1,401	19	1	4	17
Less developed countries	14,347	16,432	16,500	1,161	25	15	1	-15
Centrally planned countries	3,111	5,217	4,700	203	131	68	-10	-48

\*Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1989 began Oct. 1, 1988 & ended Sept. 30, 1989. F = forecast. — = not available.  
Note: Adjusted for transshipments through Canada.

Information contact: Stephen MacDonald (202) 219-0822.

## Farm Income

Table 32.—Farm Income Statistics

	Calendar year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 F
	\$ billion										
1. Farm receipts	142.0	144.1	147.2	141.3	147.1	149.4	140.2	147.5	155.0	167	174 to 179
Crops (incl. net CCC loans)	71.7	72.5	72.3	67.2	69.9	74.3	63.7	65.6	71.4	75	79 to 82
Livestock	68.0	69.2	70.3	69.6	72.9	69.8	71.5	76.0	78.8	84	88 to 91
Farm related 1/	2.3	2.5	4.6	4.5	4.3	5.3	5.0	5.9	5.7	7	6 to 7
2. Direct Government payments	1.3	1.9	3.5	9.3	8.4	7.7	11.8	16.7	14.5	11	9 to 10
Cash payments	1.3	1.9	3.5	4.1	4.0	7.6	8.1	6.6	7.1	9	8 to 9
Value of PIK commodities	0.0	0.0	0.0	5.2	4.5	0.1	3.7	10.1	7.4	2	0 to 1
3. Total gross farm income (4+5+6) 2/	149.3	166.3	163.5	153.2	170.2	162.9	156.6	169.0	173.8	189	192 to 199
4. Gross cash income (1+2)	143.3	146.0	150.6	150.6	155.5	157.2	152.0	164.3	170.4	177	183 to 189
5. Nonmoney income 3/	12.3	13.8	14.3	13.5	13.4	8.0	6.9	7.5	7.6	7	7 to 8
6. Value of inventory change	-6.3	6.5	-1.4	-10.9	6.0	-2.3	-2.4	-2.8	-4.1	4	0 to 4
7. Cash expenses 4/	109.1	113.2	112.8	111.4	118.8	109.0	104.8	108.2	112.0	123	124 to 127
8. Total expenses	133.1	139.4	139.9	138.2	143.7	131.7	125.1	127.7	131.8	143	144 to 148
9. Net cash income (4-7)	34.2	32.8	37.9	39.2	36.8	48.2	47.2	56.1	58.4	55	59 to 63
10. Net farm income (3-8)	16.1	26.9	23.6	14.9	26.5	31.2	31.4	41.2	42.0	47	47 to 52
Deflated (1982\$)	18.8	28.6	23.6	14.3	24.6	28.1	27.6	35.1	34.6	37	35 to 40
11. Off-farm income	34.7	35.8	36.4	37.0	39.2	55.2	64.5	56.9	57.7	58	58 to 62
12. Loan charges 5/:											
Real estate	9.9	9.0	3.8	2.3	-1.1	-6.2	-7.8	-6.7	-4.5	-3	-2 to 0
Non-real estate	5.3	6.6	3.4	0.9	-0.8	-9.6	-11.0	-4.6	-0.3	0	0 to 1
14. Rental income plus monetary change	6.1	6.4	6.3	6.3	8.9	8.8	8.1	6.8	7.6	8	8 to 10
15. Capital expenditures 5/	18.0	19.8	13.3	12.7	12.5	9.2	8.5	11.1	11.1	13	12 to 15
16. Net cash flow (9+12+13+14-15)	37.6	37.8	38.1	32.7	31.3	31.9	28.1	40.6	50.3	47	52 to 59

1/ Income from machine hire, custom work, sales of forest products, & other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food & imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, & farm household expenses. 1987 & 1988 expenses include preliminary revisions from the 1987 Census of Agriculture. 5/ Excludes farm households. Totals may not add because of rounding. F = forecast.

Information contact: Diane Bertelsen (202) 219-0809.

Table 33.—Balance Sheet of the U.S. Farming Sector

	Calendar year 1/										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 F
	\$ billion										
<b>Assets</b>											
Real estate	782.4	784.7	748.8	758.2	810.3	540.8	507.3	525.4	555.4	578	590 to 600
Non-real estate	201.8	197.8	198.0	191.9	197.8	186.2	180.8	190.5	204.6	213	215 to 225
Livestock & poultry	60.6	53.5	53.0	49.5	49.5	46.3	47.8	58.0	65.5	70	70 to 74
Machinery & motor vehicles	51.5	87.0	87.5	87.4	88.0	83.8	81.9	79.4	80.6	84	84 to 88
Crops stored 2/	33.0	29.1	27.7	23.9	29.7	22.9	16.7	18.0	23.0	24	22 to 26
Financial assets	26.7	28.2	29.8	30.9	32.6	33.3	34.5	35.1	35.5	37	35 to 39
Total farm assets	964.2	982.5	946.8	949.9	808.1	727.0	688.1	715.9	760.0	791	810 to 820
<b>Liabilities</b>											
Real estate debt 3/	89.6	98.7	102.5	104.8	94.9	88.6	80.8	74.1	69.7	67	64 to 68
Non-real estate debt 4/	77.1	83.6	87.0	87.9	87.1	77.5	66.6	62.0	61.7	62	60 to 64
Total farm debt	166.8	182.3	189.5	192.7	182.0	166.1	147.4	136.2	131.4	129	126 to 131
Total farm equity	817.4	800.2	757.3	757.2	626.1	560.9	540.7	579.7	628.6	662	685 to 695
	Percent										
<b>Selected ratios</b>											
Debt-to-assets	16.9	18.6	20.0	20.3	22.5	22.8	21.4	19.0	17.3	16	15 to 18
Debt-to-equity	20.4	22.8	25.0	25.4	29.1	29.6	27.3	23.6	20.9	20	18 to 19
Debt-to-net cash income	502	564	500	492	495	345	311	243	225	237	200 to 210

1/ As of Dec. 31. 2/ Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3/ Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4/ Excludes debt for nonfarm purposes. F = forecast.

Information contacts: Ken Erickson or Jim Ryan (202) 219-0798.



Table 34.—Cash Receipts From Farm Marketings, by State

Region & State	Livestock & products				Crops 1/				Total 1/			
	1988	1989	June 1990	July 1990	1988	1989	June 1990	July 1990	1988	1989	June 1990	July 1990
	\$ million 2/											
NORTH ATLANTIC												
Maine	217	215	18	15	197	233	2	9	414	447	18	24
New Hampshire	59	63	5	5	77	79	3	5	136	142	9	10
Vermont	351	375	38	34	51	51	2	6	401	428	35	40
Massachusetts	105	112	10	10	305	317	16	21	410	429	28	30
Rhode Island	13	13	1	1	66	66	2	3	79	79	3	4
Connecticut	183	186	14	15	214	218	12	15	398	404	28	30
New York	1,803	1,946	174	180	865	911	69	76	2,668	2,857	243	255
New Jersey	193	197	16	17	452	463	48	59	645	660	65	76
Pennsylvania	2,332	2,595	229	233	964	888	82	78	3,296	3,581	291	311
NORTH CENTRAL												
Ohio	1,584	1,698	150	147	1,980	2,114	101	179	3,564	3,812	251	326
Indiana	1,716	1,817	166	157	2,320	2,502	219	209	4,036	4,318	385	366
Illinois	2,255	2,252	205	227	3,927	4,458	508	326	6,182	6,710	713	553
Michigan	1,205	1,313	128	124	1,535	1,627	109	185	2,739	2,940	237	309
Wisconsin	4,215	4,337	404	421	764	941	68	97	4,980	5,278	472	518
Minnesota	3,418	3,716	319	335	2,649	2,809	257	208	6,067	6,526	576	543
Iowa	4,988	5,209	427	461	3,787	3,911	329	309	8,775	9,119	756	770
Missouri	2,012	2,168	175	174	1,746	1,732	203	92	3,758	3,900	378	286
North Dakota	851	842	32	30	1,507	1,465	136	125	2,358	2,108	188	155
South Dakota	2,050	2,108	157	141	895	884	66	78	2,945	2,992	224	219
Nebraska	5,390	5,643	449	433	2,409	2,878	176	195	7,800	8,521	624	628
Kansas	4,124	4,245	299	339	2,195	2,079	207	180	6,320	6,324	506	519
SOUTHERN												
Delaware	444	503	39	42	152	160	12	10	595	663	51	52
Maryland	768	870	68	67	457	476	29	43	1,224	1,346	97	109
Virginia	1,300	1,372	102	95	814	685	39	52	1,914	2,058	141	147
West Virginia	218	250	19	18	68	64	5	6	286	314	24	23
North Carolina	2,188	2,505	203	133	1,850	2,046	98	165	4,038	4,551	301	298
South Carolina	490	551	40	41	818	875	78	73	1,108	1,225	118	114
Georgia	2,018	2,270	184	181	1,554	1,598	108	96	3,570	3,869	283	277
Florida	1,132	1,221	99	104	4,688	4,982	191	173	5,820	6,203	290	278
Kentucky	1,530	1,670	103	306	680	1,258	63	51	2,510	2,928	166	357
Tennessee	1,056	1,060	83	91	877	861	58	38	1,933	1,921	141	129
Alabama	1,695	1,932	166	164	728	696	53	33	2,422	2,628	219	197
Mississippi	1,172	1,292	109	104	1,133	1,000	54	24	2,305	2,292	164	128
Arkansas	2,280	2,661	231	210	1,552	1,470	158	34	3,831	4,131	389	244
Louisiana	582	814	58	59	1,295	1,048	35	24	1,876	1,661	94	83
Oklahoma	2,243	2,409	203	232	1,112	1,185	188	118	3,354	3,594	392	350
Texas	6,562	6,863	633	642	3,689	3,897	225	274	10,251	10,760	858	915
WESTERN												
Montana	818	899	37	28	617	710	43	73	1,433	1,610	80	99
Idaho	1,039	1,046	80	90	1,285	1,670	99	100	2,324	2,715	178	190
Wyoming	584	669	28	23	177	188	4	10	761	856	31	33
Colorado	2,666	2,649	233	208	1,034	1,250	77	93	3,700	3,899	310	299
New Mexico	909	974	62	84	375	450	45	48	1,283	1,424	107	132
Arizona	792	744	54	63	1,177	1,158	48	59	1,969	1,902	102	121
Utah	528	574	51	48	173	174	11	16	701	748	62	64
Nevada	159	141	11	9	79	94	5	8	238	235	16	17
Washington	1,140	1,201	108	111	2,196	2,438	167	139	3,336	3,639	275	250
Oregon	673	739	64	68	1,508	1,558	89	176	2,182	2,297	152	244
California	4,682	5,093	528	470	11,970	12,422	912	887	16,652	17,515	1,440	1,357
Alaska	10	9	1	1	20	20	1	2	30	29	2	3
Hawaii	89	92	8	7	490	495	40	41	578	587	47	48
UNITED STATES	78,821	83,724	7,013	7,191	71,372	75,449	5,534	5,317	150,192	159,173	12,547	12,508

1/ Sales of farm products include receipts from commodities placed under CCC loans minus value of redemptions during the period. 2/ Estimates as of end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 219-0806.

Table 35.—Cash Receipts From Farming

	Annual						1989	1990				
	1984	1985	1986	1987	1988	1989	July	Mar	Apr	May	June	July
	\$ million											
Farm marketings & CCC loans*	142,784	144,114	135,197	141,653	150,192	159,173	11,776	12,271	11,560	12,129	12,547	12,508
Livestock & products	72,895	69,822	71,539	76,010	78,821	83,724	6,620	7,380	6,962	7,431	7,013	7,191
Meat animals	40,750	38,550	39,081	44,478	45,884	46,591	3,415	4,172	3,928	4,235	3,854	3,829
Dairy products	17,931	18,055	17,724	17,727	17,641	19,401	1,562	1,716	1,665	1,782	1,756	1,816
Poultry & eggs	12,245	11,209	12,701	11,517	12,867	15,346	1,258	1,333	1,214	1,253	1,232	1,166
Other	1,968	2,008	2,034	2,288	2,429	2,386	386	159	167	161	170	379
Crops	69,889	74,293	63,658	66,643	71,372	75,449	5,156	4,890	4,598	4,698	5,534	6,317
Food grains	9,731	8,990	6,741	5,780	7,464	8,073	1,085	374	293	388	1,264	855
Feed crops	16,138	22,691	16,912	14,543	14,305	16,858	1,188	1,360	1,218	1,359	1,501	1,493
Cotton (lint & seed)	3,674	3,687	3,371	4,189	4,548	4,740	143	259	196	192	116	115
Tobacco	2,813	2,699	1,921	1,826	1,960	2,381	20	1	16	0	0	174
Oil-bearing crops	13,641	12,475	10,614	11,294	13,537	12,172	418	767	538	505	616	466
Vegetables & melons	9,152	8,572	8,849	9,889	9,754	11,340	755	619	942	1,093	876	727
Fruits & tree nuts	6,734	6,946	7,248	8,058	9,139	9,020	912	357	209	237	530	652
Other	8,008	8,333	9,002	10,064	10,665	11,068	636	962	1,216	923	611	635
Government payments	8,430	7,704	11,813	16,747	14,480	10,887	272	2,331	1,215	636	161	48
Total	151,214	151,818	147,010	158,400	164,672	170,060	12,048	14,602	12,776	12,765	12,698	12,556

\* Receipts from loans represent value of commodities placed under CCC loans minus value of redemptions during the month.

Information contact: Roger Strickland (202) 219-0806.

Table 36.—Farm Production Expenses

	Calendar year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990 F
	\$ million										
Feed	20,971	20,855	18,592	20,371	20,239	17,247	17,875	17,958	20,620	22,722	21,000 to 24,000
Livestock	10,670	8,999	9,684	8,818	9,486	9,184	9,758	11,842	12,812	12,983	12,000 to 15,000
Seed	3,220	3,428	3,172	2,690	3,386	3,128	3,188	3,259	3,268	3,733	3,000 to 6,000
Farm-origin inputs	34,861	33,282	31,447	31,879	33,112	29,659	30,621	33,059	36,700	39,438	38,000 to 42,000
Fertilizer	9,410	9,409	8,018	6,959	8,574	7,506	8,813	8,453	6,775	7,554	6,000 to 8,000
Fuels & oils	7,879	8,570	7,734	7,214	7,308	6,446	5,318	4,970	4,932	5,341	5,000 to 7,000
Electricity	1,526	1,747	2,041	1,982	2,060	1,878	1,795	2,158	2,231	2,109	2,000 to 3,000
Pesticides	3,539	4,201	4,282	3,870	4,688	4,334	4,324	4,512	4,443	5,721	5,000 to 7,000
Manufactured inputs	22,434	23,927	22,076	20,024	22,629	20,163	18,250	18,090	18,390	20,717	20,000 to 23,000
Short-term interest	8,717	10,722	11,349	10,815	10,396	8,735	7,920	7,305	7,287	7,480	7,000 to 8,000
Real estate interest 1/	7,544	9,142	10,481	10,816	10,733	9,878	9,131	8,187	7,885	7,643	6,000 to 8,000
Total interest charges	16,261	19,864	21,830	21,430	21,129	18,613	17,052	15,492	15,172	15,123	14,000 to 16,000
Repair & maintenance 1/ 2/	7,075	7,021	6,428	6,529	6,730	6,556	6,485	6,828	6,889	7,794	7,000 to 9,000
Contract & hired labor	9,294	8,932	10,075	9,725	9,729	9,799	9,890	10,821	11,202	11,887	11,000 to 13,000
Machine hire & custom work	1,823	1,964	2,025	2,213	2,566	2,354	2,099	2,105	2,271	2,739	2,000 to 4,000
Marketing, storage, & transportation	3,070	3,523	4,301	3,904	4,012	4,127	3,652	3,988	3,281	4,214	4,000 to 6,000
Misc. operating expenses 1/	6,881	6,909	7,262	9,089	9,136	8,198	8,054	8,902	9,357	9,857	8,000 to 9,000
Other operating expenses	26,143	28,369	30,089	31,461	32,173	31,034	30,180	32,644	33,000	36,491	36,000 to 40,000
Capital consumption 1/	21,474	23,573	24,287	23,873	21,623	19,648	17,709	18,475	16,716	17,310	17,000 to 19,000
Taxes 1/	3,891	4,245	4,036	4,469	4,059	4,231	4,125	4,995	4,803	5,316	5,000 to 6,000
Net rent to nonoperator landlord	6,075	6,184	6,174	5,110	8,978	8,435	6,951	8,964	7,014	8,181	8,000 to 10,000
Other overhead expenses	31,440	34,003	34,497	33,452	34,660	32,314	28,785	28,434	28,633	30,807	31,000 to 34,000
Total production expenses	133,138	139,444	139,940	138,245	143,703	131,683	125,087	127,719	131,787	142,575	144,000 to 148,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses include other livestock purchases & dairy assessments. Totals may not add because of rounding. F = forecast. 1987 & 1988 expenses include preliminary revisions from the Census of Agriculture.

Information contacts: Chris McGath (202) 219-0804, Diane Berntsen (202) 219-0809.



Table 37.—CCC Net Outlays by Commodity &amp; Function

COMMODITY/PROGRAM	Fiscal year									
	1982	1983	1984	1985	1986	1987	1988	1989	1990 E	1991 E
	\$ million									
<b>Feed grains</b>										
Corn	4,281	5,720	-934	4,403	10,524	12,348	8,227	2,863	2,638	1,665
Grain sorghum	988	814	76	463	1,185	1,203	764	467	433	222
Barley	120	268	89	336	471	394	57	45	-88	37
Oats	-1	11	5	2	26	17	-2	1	-7	0
Corn & oat products	0	2	6	7	5	7	7	8	8	9
<b>Total feed grains</b>	<b>5,397</b>	<b>6,815</b>	<b>-758</b>	<b>5,211</b>	<b>12,211</b>	<b>13,967</b>	<b>9,053</b>	<b>3,384</b>	<b>2,984</b>	<b>1,933</b>
Wheat	2,238	3,419	2,536	4,691	3,440	2,836	678	53	576	1,951
Rice	164	664	333	990	947	906	128	631	701	669
Upland cotton	1,190	1,363	244	1,563	2,142	1,786	666	1,461	-109	434
Tobacco	103	880	346	455	253	-346	-453	-367	-242	-223
Dairy	2,182	2,528	1,502	2,085	2,337	1,166	1,295	679	423	448
Soybeans	169	288	-585	711	1,597	-476	-1,678	-86	116	50
Peanuts	12	-6	1	12	32	8	7	13	-6	3
Sugar	-5	49	10	184	214	-65	-246	-25	0	0
Honey	27	48	90	81	89	73	100	42	63	50
Wool	54	94	132	109	123	162	1/ 5	93	112	167
Operating expense 3/	294	328	362	346	457	535	614	620	627	634
Interest expenditure	-13	3,525	1,064	1,435	1,411	1,219	395	65	653	527
Export programs 4/	65	398	743	134	102	276	200	-102	-39	67
1989/89 Disaster/										
Livestock Assistance	0	0	0	0	0	0	0	3,919	2/ 196	76
Other	-225	-1,542	1,295	-314	486	371	1,695	143	667	667
<b>Total</b>	<b>11,652</b>	<b>18,851</b>	<b>7,315</b>	<b>17,683</b>	<b>25,841</b>	<b>22,408</b>	<b>12,461</b>	<b>10,523</b>	<b>6,742</b>	<b>7,651</b>
<b>FUNCTION</b>										
Price-support loans (net)	7,015	8,438	-27	6,272	13,828	12,199	4,579	-926	-276	197
Direct payments										
Deficiency	1,185	2,780	612	6,302	6,166	4,633	3,971	5,798	4,158	4,584
Diversification	0	705	1,504	1,525	64	382	8	-1	0	0
Dairy termination	0	0	0	0	489	587	260	168	178	100
Other	0	0	0	0	27	60	0	42	1	11
Disaster	306	115	1	0	0	0	6	4	0	0
<b>Total direct payments</b>	<b>1,491</b>	<b>3,600</b>	<b>2,117</b>	<b>7,827</b>	<b>6,746</b>	<b>5,662</b>	<b>4,245</b>	<b>6,011</b>	<b>4,337</b>	<b>4,695</b>
1988/89 crop disaster	0	0	0	0	0	0	0	3,388	2/ 16	0
Emergency livestock/										
forage assistance	16	0	0	0	0	0	31	533	180	76
Purchases (net)	2,031	2,540	1,470	1,331	1,670	-479	-1,131	116	-122	37
Producer storage										
payments	679	964	268	329	485	832	658	174	175	27
Processing, storage,										
& transportation	355	665	639	657	1,013	1,659	1,113	659	360	306
Operating expense 3/	294	328	362	346	457	535	614	620	627	634
Interest expenditure	-13	3,525	1,064	1,435	1,411	1,219	395	65	653	527
Export programs 4/	65	398	743	134	102	276	200	-102	-39	67
Other	-281	-1,607	679	-648	329	305	1,757	-13	811	1,085
<b>Total</b>	<b>11,652</b>	<b>18,851</b>	<b>7,315</b>	<b>17,683</b>	<b>25,841</b>	<b>22,408</b>	<b>12,461</b>	<b>10,523</b>	<b>6,742</b>	<b>7,651</b>

1/ Fiscal 1988 wool & mohair program outlays were \$130,635,000 but include a one-time advance appropriation of \$126,108,000, which was recorded as a wool program receipt by Treasury. 2/ Benefits to farmers under the Disaster Assistance Act of 1989 are being paid in generic certificates & are not recorded directly as disaster assistance outlays. 3/ Does not include CCC Transfers to General Sales Manager. 4/ Includes Export Guarantee Program, Direct Export Credit Program, & CCC Transfers to the General Sales Manager. E = Estimated in the fiscal 1991 Mid-Session Review based on June, 1990 supply and demand estimates. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

## Food Expenditures

**Table 38.—Food Expenditure Estimates**

	Annual			1990			1990 year-to-date		
	1987	1988	1989 R	June	July P	Aug P	June	July P	Aug P
\$ billion									
Sales 1/									
Off-premise use 2/	245,844	257,081	276,244	24.0	24.9	25.6	141.8	166.7	192.3
Meals & snacks 3/	179,169	196,630	203,599	19.4	19.4	19.8	106.5	125.9	145.7
1989 \$ billion									
Sales 1/									
Off-premise use 2/	273,160	273,947	276,372	23.6	23.3	23.9	133.9	157.3	181.2
Meals & snacks 3/	195,095	202,533	203,565	18.5	18.4	18.8	102.8	121.2	140.0
Percent change from year earlier (\$ bil.)									
Sales 1/									
Off-premise use 2/	3.6	4.9	7.1	5.9	4.0	7.2	6.0	5.7	5.9
Meals & snacks 3/	10.8	9.7	5.1	8.3	7.1	7.6	7.5	7.4	7.4
Percent change from year earlier (1989 \$ bil.)									
Sales 1/									
Off-premise use 2/	-0.8	0.3	0.9	-0.3	-2.1	0.9	-1.0	-1.2	-0.9
Meals & snacks 3/	6.5	3.8	0.5	3.2	2.2	2.6	2.5	2.5	2.5

1/ Food only (excludes alcoholic beverages). Not seasonally adjusted. 2/ Excludes donations & home production. 3/ Excludes donations, child nutrition subsidies, & meals furnished to employees, patients, & inmates. R = revised, P = preliminary.

NOTE: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food not alcoholic beverages & pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced & consumed on farms & food furnished to employees; (4) this series includes all sales of meals & snacks. PCE includes only purchases using personal funds, excluding business travel & entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," Agr.-Econ. Rpt. No. 575, Aug 1987.

Information contact: Alden Manchester (202) 219-0880.

## Transportation

**Table 39.—Rail Rates; Grain & Fruit/Vegetable Shipments**

	Annual			1989 Aug	1990					
	1987	1988	1989		Mar	Apr	May	June	July	Aug
Rail freight rate index 1/ (Dec. 1984=100)										
All products	100.1	104.8	106.4	106.8	107.1 P	107.4 P	107.3 P	107.0 P	107.0 P	107.1 P
Farm products	99.3	105.6	108.4	108.0	109.4 P	109.9 P	110.1 P	109.2 P	109.5 P	110.7 P
Grain	98.7	105.4	108.7	108.4	109.1 P	110.3 P	110.3 P	108.9 P	109.0 P	110.5 P
Food products	98.6	103.2	103.9	104.1	105.0 P	105.8 P	105.4 P	104.5 P	104.3 P	104.4 P
Grain shipments										
Rail carloadings (1,000 cars) 2/	29.0	30.7	28.4	28.0	29.5 P	27.9 P	25.8 P	27.9 P	25.8 P	26.8 P
Fresh fruit & vegetable shipments										
Piggy back (1,000 cwt) 3/ 4/	588	535	603	457	370	401	598	572	438	338
Rail (1,000 cwt) 3/ 4/	630	607	690	217	572	452	590	602	414	183
Truck (1,000 cwt) 3/ 4/	9,137	9,879	9,729	8,970	8,738	10,179	11,648	12,749	9,961	9,038
Cost of operating trucks hauling produce 5/										
Owner operator (cts./mile)	118.3	118.7	124.1	123.4	127.0	127.5	127.2	128.4	126.8	133.9
Fleet operation (cts./mile)	119.5	118.4	123.4	122.6	126.5	127.1	126.7	125.8	126.7	135.5

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. 3/ Weekly average; from Agricultural Marketing Service, USDA. 4/ Preliminary data for 1989 & 1990. 5/ Office of Transportation, USDA. P = preliminary.

Information contact: T.Q. Hutchinson (202) 299-1840.



## Indicators of Farm Productivity

Table 40.—Indexes of Farm Production Input Use & Productivity

	1981	1982	1983	1984	1985	1986	1987	1988	1989 2/	1990 2/
	1977=100									
<b>Farm output</b>	<b>118</b>	<b>116</b>	<b>96</b>	<b>112</b>	<b>118</b>	<b>111</b>	<b>110</b>	<b>102</b>	<b>111</b>	<b>117</b>
All livestock products 3/	109	107	109	107	110	110	113	116	116	117
Meat animals	106	101	104	101	102	100	102	104	103	101
Dairy products	108	110	114	110	117	116	116	118	118	120
Poultry & eggs	119	119	120	123	128	133	144	150	156	165
<b>All crops 4/</b>	<b>117</b>	<b>117</b>	<b>88</b>	<b>111</b>	<b>118</b>	<b>109</b>	<b>108</b>	<b>92</b>	<b>108</b>	<b>111</b>
Feed grains	121	122	87	116	134	123	106	73	108	115
Hay & forage	106	109	100	107	106	106	102	89	101	102
Food grains	144	138	117	129	121	106	107	98	107	138
Sugar crops	107	96	93	95	97	106	111	105	106	102
Cotton	109	85	55	91	94	89	103	107	88	102
Tobacco	108	104	75	90	81	63	62	72	74	81
Oil crops	114	121	91	106	117	110	108	89	106	102
Cropland used for crops	102	101	88	99	98	94	88	86	90	—
Crop production per acre	115	116	100	112	120	116	122	107	119	—
<b>Farm input 5/</b>	<b>102</b>	<b>99</b>	<b>97</b>	<b>95</b>	<b>92</b>	<b>87</b>	<b>86</b>	<b>85</b>	<b>—</b>	<b>—</b>
Farm real estate	104	102	101	97	95	93	92	91	—	—
Mechanical power & machinery	98	92	88	84	80	75	72	71	—	—
Agricultural chemicals	129	118	105	121	123	110	111	113	—	—
Feed, seed, & livestock purchases	108	108	110	106	106	103	111	107	—	—
<b>Farm output per unit of input</b>	<b>116</b>	<b>117</b>	<b>99</b>	<b>119</b>	<b>128</b>	<b>127</b>	<b>128</b>	<b>120</b>	<b>—</b>	<b>—</b>
<b>Output per hour of labor</b>										
Farm 6/	123	125	99	121	139	139	142	134	—	—
Nonfarm 7/	100	99	102	105	106	108	109	111	—	—

1/ For historical data & indexes, see Economic Indicators of the Farm Sector: Production & Efficiency Statistics, 1988, ECIFS 5-6. 2/ Preliminary indexes for 1989 based on Crop Production: 1989 Summary, released in January 1990, & unpublished data from the Agricultural Statistics Board, NASS. 3/ Gross livestock production includes minor livestock products not included in the separate groups shown. It cannot be added to gross crop production to compute farm output. 4/ Gross crop production includes some miscellaneous crops not in the separate groups shown. It cannot be added to gross livestock production to compute farm output. 5/ Includes other items not included in the separate groups shown. 6/ Economic Research Service. 7/ Bureau of Labor Statistics. — = not available.

Information contact: Jim Hauver (202) 219-0432.

## Food Supply and Use

Table 41.—Per Capita Consumption of Major Food Commodities<sup>1</sup>

Commodity	1982	1983	1984	1985	1986	1987	1988	1989 2/
	Pounds							
Red meats 3/4/	118.7	120.3	119.8	120.9	118.3	113.3	115.1	111.3
Poultry 3/5/	45.0	45.9	47.2	49.4	51.1	55.3	57.1	60.5
Fish 3/	12.3	13.1	13.7	14.4	14.5	15.5	15.0	15.7
Eggs	33.5	33.0	32.9	32.2	32.0	32.1	31.0	29.7
Dairy products								
Cheese (excluding cottage) 6/	19.9	20.5	21.4	22.5	23.0	24.0	23.6	23.7
American	11.3	11.6	11.8	12.1	12.1	12.4	11.4	11.0
Italian	4.8	5.3	5.8	6.4	7.0	7.8	8.1	8.5
Cottage cheese	4.2	4.1	4.1	4.1	4.1	3.9	3.9	3.5
Beverage milks	228.8	228.0	228.6	228.9	227.7	225.5	221.2	218.5
Fluid whole milk 7/	133.2	130.0	126.5	122.9	118.0	111.4	105.2	95.2
Fluid lowfat milk 8/	83.0	85.4	88.6	93.4	98.2	100.1	100.0	103.6
Fluid skim milk	10.6	10.6	11.5	12.6	13.4	14.0	16.0	19.7
Fluid cream 9/	3.4	3.7	4.0	4.4	4.7	4.6	4.7	4.7
Yogurt (excluding frozen)	2.6	3.2	3.7	4.1	4.4	4.5	4.6	4.3
Ice cream	17.6	18.0	18.1	18.1	18.4	18.3	17.2	16.0
Ice milk	6.6	6.9	7.0	6.9	7.2	7.4	7.9	8.3
All dairy products, milk equivalent, milkfat basis	555.5	572.1	580.9	592.1	589.6	598.5	580.5	565.0
Fats & oils	61.1	63.0	61.6	67.3	67.3	65.2	64.5	63.4
Table spreads	15.3	15.3	15.3	15.7	16.0	15.1	14.7	14.4
Shortening	18.6	18.5	21.2	22.8	22.0	21.3	21.2	21.2
Lard & edible tallow (direct use)	3.8	4.2	3.8	3.7	3.5	2.8	2.5	2.7
Salad & cooking oils	21.6	23.5	19.8	23.5	24.1	24.7	24.8	23.8
Other edible fats & oils 10/	1.6	1.5	1.7	1.6	1.7	1.3	1.3	1.3
Fresh fruits 11/12/	87.5	93.0	91.4	89.0	95.5	100.7	99.0	98.6
Noncitrus 13/	62.7	63.6	67.5	66.5	69.5	75.1	71.9	72.2
Citrus 14/	24.7	29.4	24.0	22.6	26.0	25.7	27.1	24.4
Watermelons 12/	12.1	11.0	14.0	13.1	12.1	12.1	13.1	—
Honeydews 12/	2.0	1.9	1.9	2.2	2.6	2.4	2.5	2.6
Dried fruit	2.4	2.6	2.5	2.8	2.8	2.6	2.9	3.2
Frozen fruit	2.9	2.9	3.0	3.3	3.6	3.9	3.6	4.8
Frozen citrus juices 15/	36.9	41.6	35.6	40.3	43.1	40.0	39.9	35.9
Selected fresh vegetables 11/12/	83.0	80.6	87.7	88.3	86.3	93.0	96.2	99.3
Asparagus	—	—	0.4	0.5	0.7	0.6	0.6	0.6
Broccoli	2.2	2.3	2.7	2.9	3.5	3.6	4.2	4.5
Carrots	7.7	7.5	8.0	7.6	7.8	8.7	8.4	8.7
Cauliflower	1.6	1.7	2.2	2.3	2.7	2.7	2.9	2.8
Celery	7.8	7.4	7.5	7.4	7.0	7.1	7.7	7.9
Corn 16/	7.1	7.3	7.6	7.6	7.2	7.4	6.7	7.5
Iceberg lettuce	25.6	23.2	25.9	24.7	23.1	26.6	27.5	29.2
Onions	15.7	15.4	16.2	16.9	17.2	16.8	18.1	17.9
Tomatoes	13.4	13.7	15.3	16.1	17.2	17.0	17.9	17.9
Other fresh 17/	1.9	2.1	1.9	2.3	1.9	2.3	2.2	2.3
Potatoes, all 12/	114.4	119.1	122.1	122.4	125.7	125.9	123.2	126.2
Fresh	46.8	49.7	48.8	46.7	49.4	48.9	51.4	49.8
Canning	1.9	1.9	1.8	1.9	1.8	1.8	1.9	2.0
Freezing	38.4	38.9	43.4	45.1	45.8	47.1	42.6	46.1
Chips/shoestrings	17.2	17.9	18.1	17.7	18.2	17.7	17.3	17.8
Dehydrating	10.1	9.7	10.0	11.0	10.5	10.4	10.0	10.5
Sweetpotatoes 12/18/	5.5	4.6	5.0	5.4	4.4	4.5	4.1	4.1
Dry edible beans, peas, & lentils 12/	6.8	6.9	5.4	7.6	7.0	5.4	7.2	5.9
Peanuts (shelled)	5.9	5.9	6.0	6.3	6.4	6.4	6.8	7.1
Tree nuts (shelled)	2.2	2.2	2.3	2.3	2.2	2.2	2.3	2.4
Fresh mushrooms 12/	1.4	1.6	1.8	1.8	1.9	1.9	2.0	2.1
Processing mushrooms 12/	1.8	1.8	1.9	1.8	1.8	1.8	1.6	1.4
Wheat flour 19/	118.7	117.4	118.9	124.3	125.2	129.3	129.3	122.7
Rice	11.8	9.7	8.6	9.1	11.6	13.5	14.3	15.7
Dry pasta products 20/	10.30	10.60	11.00	11.30	11.60	11.90	12.20	12.60
Breakfast cereals	11.90	12.20	12.50	12.80	13.10	13.40	14.10	14.60
Caloric sweeteners 21/	127.8	130.4	129.7	130.4	129.6	132.7	133.3	133.6
Soft drinks (gal.)	26.9	26.9	27.2	30.4	31.9	30.5	31.7	32.0
Alcoholic beverages (gal.) 22/	42.3	41.7	41.1	40.5	40.6	40.0	39.5	38.9
Coffee (green bean equiv.)	9.9	10.0	10.2	10.4	10.5	10.1	9.3	9.6
Cocoa (chocolate liquor equiv.)	3.0	3.2	3.4	3.7	3.6	3.9	3.9	4.0

1/ In pounds, retail weight unless otherwise stated. Consumption normally represents the residual after exports, nonfood use, & ending stocks are subtracted from the sum of beginning stocks, domestic production, & imports. Data on a calendar year basis except fresh citrus fruits, apples, grapes, dried fruit, peanuts, & rice, which are on a crop-year basis. 2/ Preliminary. 3/ Boneless, trimmed weight. 4/ Beef, veal, pork, lamb & mutton. 5/ Chicken & turkey. 6/ Natural equivalent of cheese & cheese products. Total product weight is greater than natural equivalent because processed cheese & cheese food are made from natural cheese & other dairy products. Includes miscellaneous cheese not shown separately. 7/ Plain & flavored. 8/ Plain & flavored & buttermilk. 9/ Heavy cream, light cream, & half & half. 10/ Includes confectioner's fats & other edible fats not shown separately. 11/ Total may not add due to rounding. 12/ Farm weight. Figures reflect per capita utilization rather than consumption due to lack of stocks data. 13/ Apples, apricots, avocados, bananas, cherries, cranberries, figs, grapes, kiwifruit, mangos, nectarines, olives, papayas, peaches, pears, persimmons, pineapples, plums, & pomegranates. 14/ Includes grapefruit, lemons, limes, tangelos, & tangerines. 15/ Single-strength basis. 16/ On-cob basis. 17/ Includes artichokes, garlic, & eggplant. 18/ Fresh & processed. 19/ White, whole wheat, semolina, & durum flour. 20/ Excludes fresh pasta products, & canned & frozen products made with fresh pasta. 21/ Dry weight equivalent. Includes refined (cane & beet) sugar, corn sweeteners, edible syrups, & honey. 22/ Per capita for U.S. total population, 21 years & over. — = not available.

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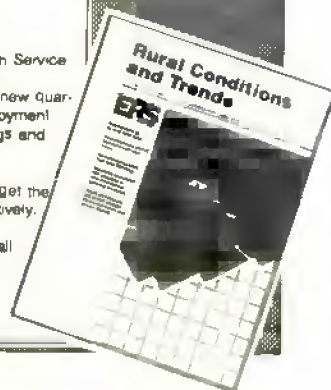
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